

**IEEE 1394 OHCI CardBus PC Card
for Windows98/98SE/2000/Me**

CBFW1U

User's Guide

Rev. 6.0

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 RATOC Systems, Inc.

CBFW1U User's Guide

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1. Introduction

This User Guide describes how to install, use, and troubleshoot the RATOC CFW1U 1394 CardBus PC Card(called CFW1U in this User's Guide).

The information in the README.TXT file on the CD-ROM may include the latest information. Be sure to read the README.TXT file as well.

1-1. Before Using the CFW1U

- Never attempt to disassemble the PC Card or the dongle.
- Do not bend, drop or strike the PC Card or the cable, or subject it to heavy pressure.
- Information in this document is subject to change without notice.
- If you have any questions or find errors in this guide, do not hesitate to let us know.

1-2. Package

- CFW1U 1394 OHCI CardBus PC Card
- Dongle with 1394 6pin x 2port and Cable Power input jack
- 1394 6pin - DV 4pin cable(6feet)
- CFW1U capture software(CD-ROM)
- Ulead Video Studio 4.0 SE Basic(CD-ROM)
- User's Guide (This document)
- LiveExpress/I V.2 Install and Basic Features(LiveExpress Manual)
- Software License Agreement

NOTE

If any of these items are missing from the CFW1U retail package, contact your supplier immediately.

2. Setup the OHCI Driver

This section describes the OHCI driver installation. First, confirm your Windows version.

When your Windows version is Windows 98, go to the section 2-1.

When your Windows version is Windows 98 SE(Second Edition), go to the section 2-2.

When your Windows version is Windows 2000, go to the section 2-3.

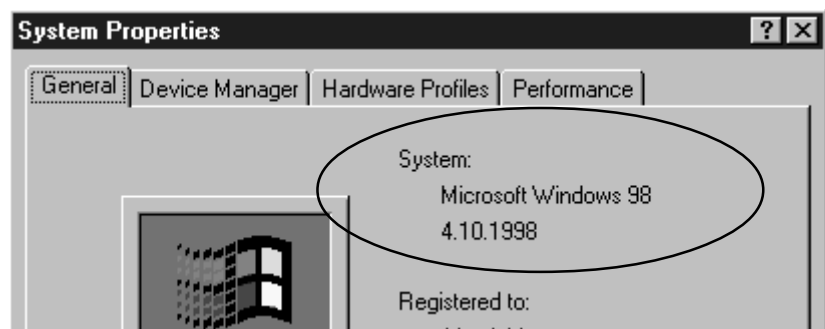
When your Windows version is Windows Me(Millennium Edition), go to the section 2-4.

2-1.Windows 98 Installation

To use the CBFW1U on Windows 98, follow steps through.

Make sure your Windows is Windows98 by checking the **“Properties”** of **“My Computer”**

If the number is under 4.10.2222, you have Windows98.



Step1.Install the OHCI driver

1. When the CBFW1U is inserted into the PC Card slot, Hardware Wizard will detect the CBFW1U automatically and you will see the screen below. Click **[Next]**.



2. When the following window appears, select **[Search for the best driver for your device (Recommended)]**. Then click **[Next]**.



3. When the following window appears, click **[Next]**. (You do not have to check any boxes)



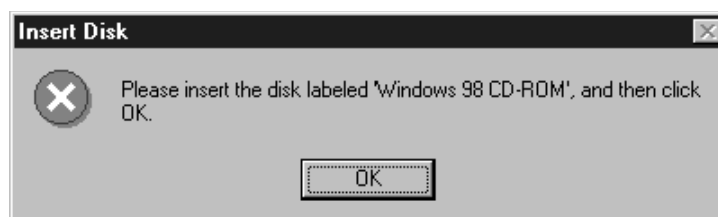
4. When the following window appears, select **[The updated driver (Recommended)]**
NEC Firewarden OHCI Compliant IEEE 1394 Host Controller. Then click **[Next]**.



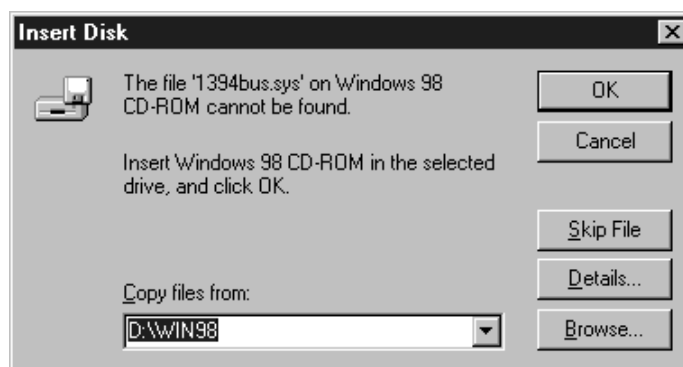
5. When the following window appears, click **[Next]**.



6. When the following window appears, insert the Windows 98 CD-ROM into the CD-ROM drive. Then click **[OK]**.



7. If the following window appears, type **“D:\Win98”** or **“C:\Windows\options\cabs”** in the **Copy files from** box, where **“D”** means the CD-ROM drive. After that, click **[OK]**.
If your CD-ROM drive is not **“D”**, you must replace **“D”** to the appropriate drive name.



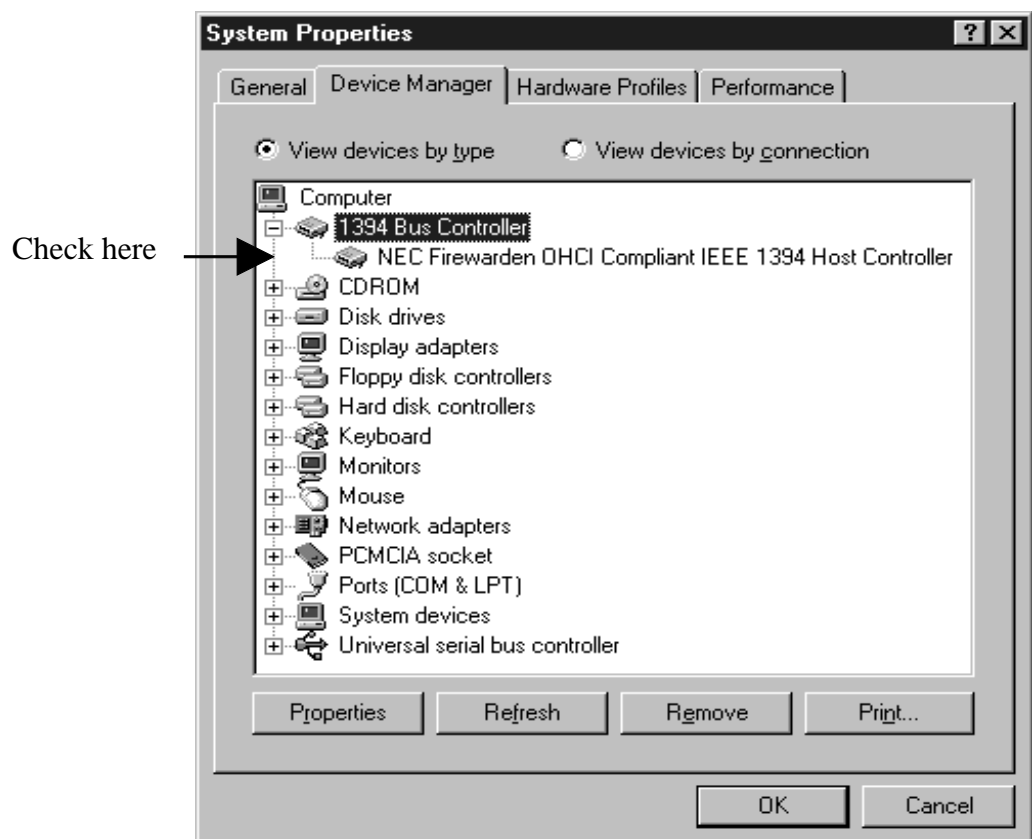
8. When the following window appears, click **[Finish]**. You have now completed the installation of the OHCI driver.



Step2. Verify the OHCI driver installation

To verify the OHCI driver installation, follow steps through.

1. Click **My Computer** with the right button of the mouse.
2. Select **Properties**.
3. Click the **Device Manager** tab.
4. Double-click “**1394 Bus Controller**”.
5. If there is a **NEC Firewarden OHCI Compliant IEEE 1394 Host Controller** string without any yellow “!” marks or red “X” marks under the **1394 Bus Controller**, the OHCI driver for the CBFW1U is installed correctly.



2-2.Windows 98 SE Installation

To use the CBFW1U on Windows 98 Second Edition, follow steps through.

Make sure your Windows is Windows98 Second Edition by checking the **“Properties”** of **“My Computer”**. If you can find **“Second Edition”**, you have Windows98 Second Edition.



Step1.Install the OHCI driver

1. When the CBFW1U is inserted into the PC Card slot, Hardware Wizard will detect the CBFW1U automatically and you will see the screen below. Click **[Next]**.



2. When the following window appears, select **[Search for the best driver for your device (Recommended)]**. Then click **[Next]**.



3. When the following window appears, click **[Next]**. (You do not have to check any boxes)



4. When the following window appears, select [**The updated driver (Recommended) NEC Firewarden OHCI Compliant IEEE 1394 Host Controller**]. Then click [**Next**].



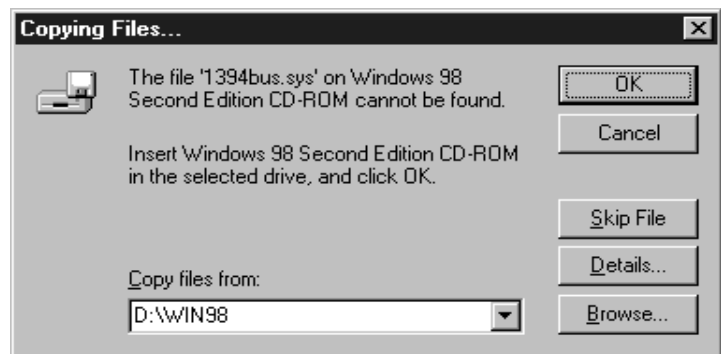
5. When the following window appears, click [**Next**].



6. When the following window appears, insert the Windows 98 Second Edition CD-ROM into the CD-ROM drive. Then click **[OK]**.



7. If the following window appears, type **"D:\Win98"** or **"C:\Windows\options\cabs"** in the **Copy files from** box, where **"D"** means the CD-ROM drive. After that, click **[OK]**.
If your CD-ROM drive is not **"D"**, you must replace **"D"** to the appropriate drive name.



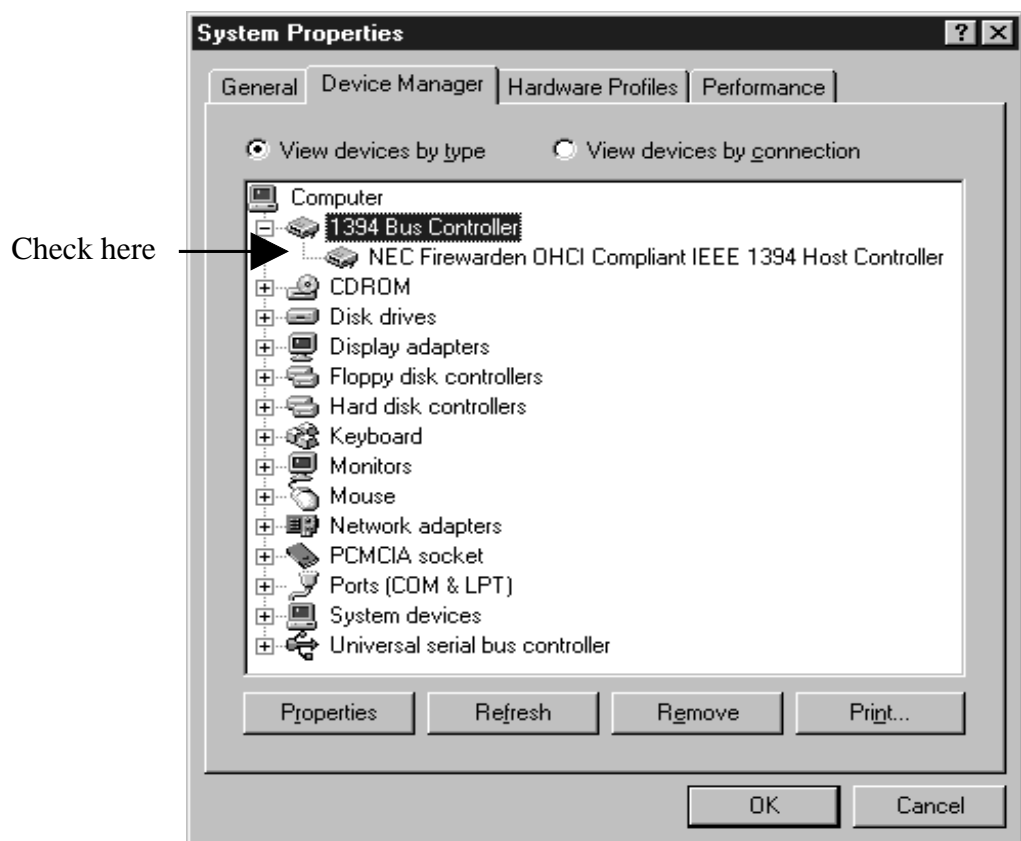
8. When the following window appears, click **[Finish]**.
You have now completed the installation of the OHCI driver.



Step 2. Verify the OHCI driver installation

To verify the OHCI driver installation, follow steps through.

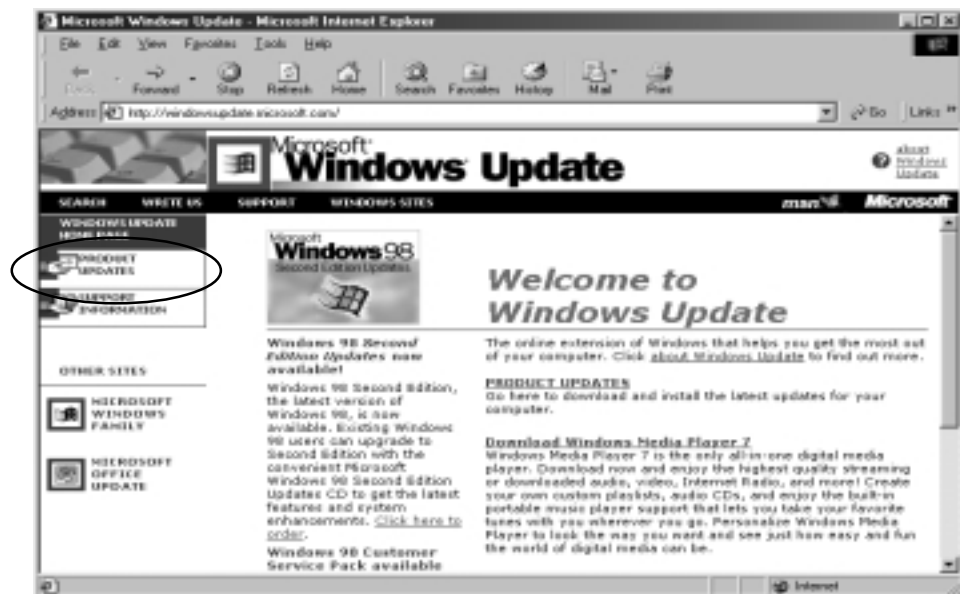
1. Click **My Computer** with the right button of the mouse.
2. Select **Properties**.
3. Click the **Device Manager** tab.
4. Double-click “**1394 Bus Controller**”.
5. If there is a **NEC Firewarden OHCI Compliant IEEE 1394 Host Controller** string without any yellow “!” marks or red “X” marks under the **1394 Bus Controller**, the OHCI driver for the CBFW1U is installed correctly.



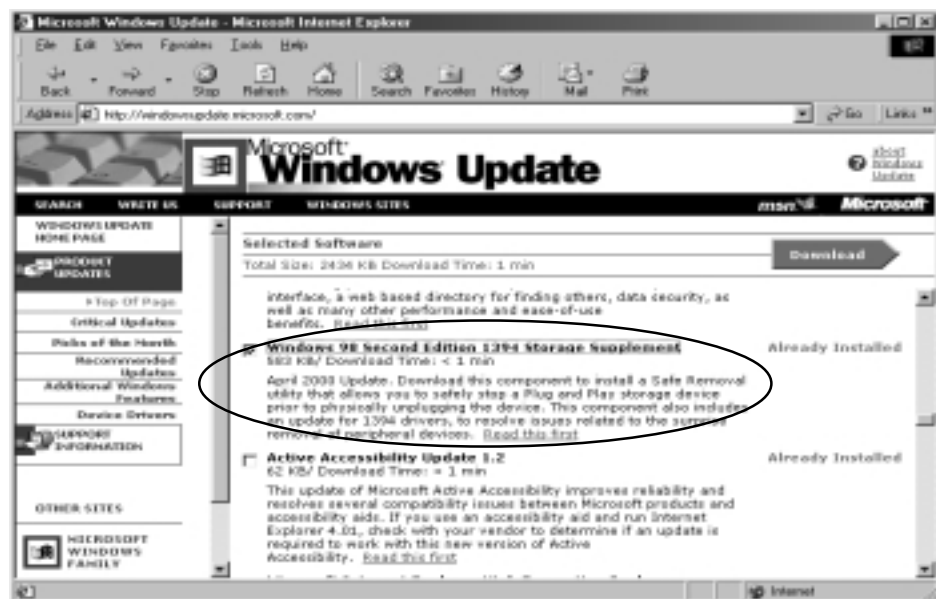
Step3.Microsoft Windows Update

You should update your Windows 98 SE to improve performance. To update your Windows 98 SE, follow steps through.

- 1.Click **Start** with the left button of the mouse.
- 2.Select **Windows Update**.
- 3.You will see the screen below. Click **PRODUCT UPDATES**.



- 4.You will see the screen below.Check **Windows 98 Second Edition 1394 Storage Supplement** and download the component. For more information on the component, refer to **Read this first** on the screen.



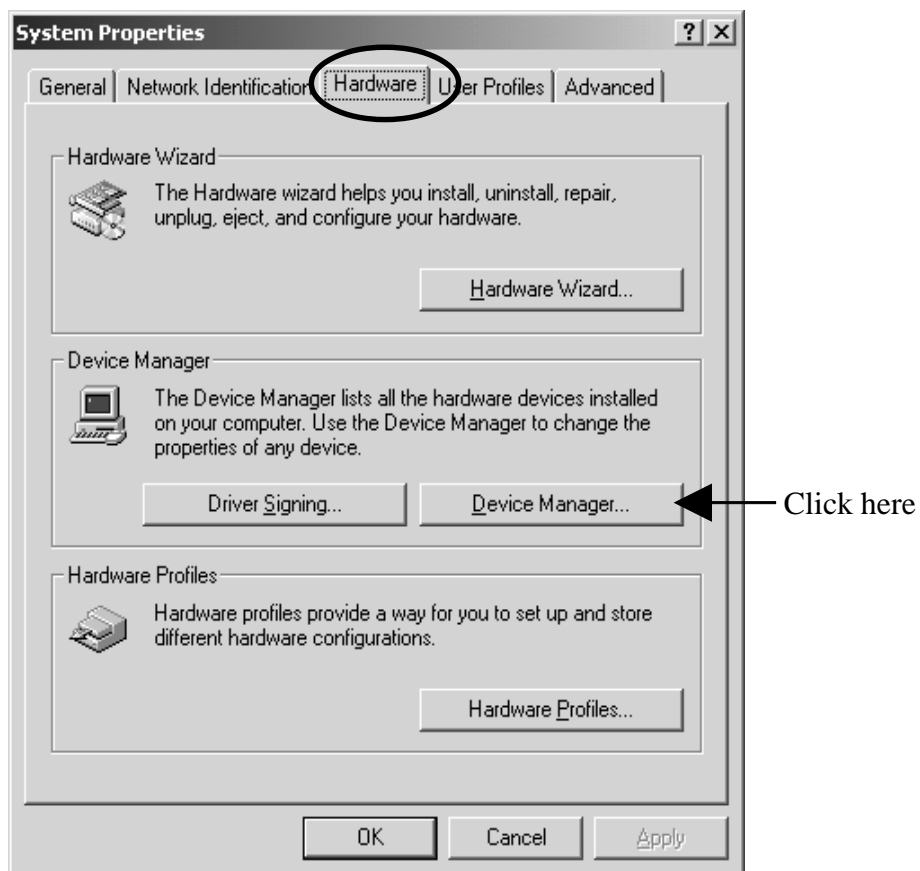
2-3.Windows 2000 Installation

To use the CBFW1U on Windows 2000, follow steps through.

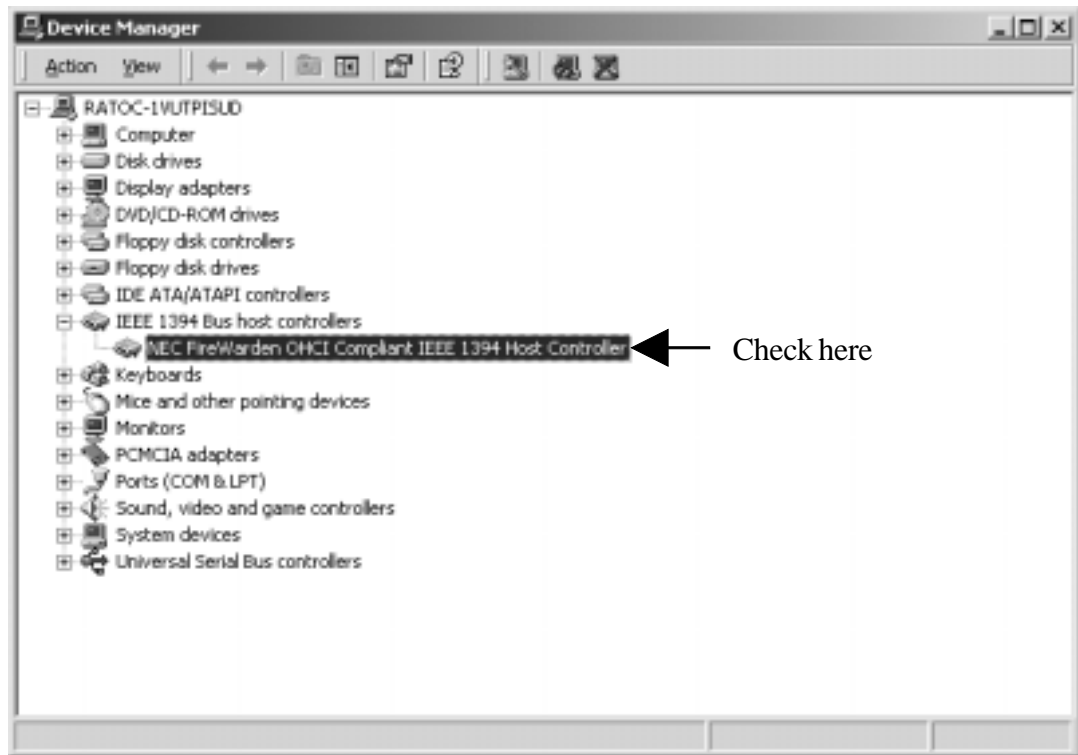
Step1.Verify the OHCI driver installation

When you insert the CBFW1U into the PC Card slot, the OHCI driver is installed automatically by the Hardware Wizard.To verify the OHCI driver Installation, follow steps through.

- 1.Click **My Computer** with the right button of the mouse.
- 2.Select **Properties**.
- 3.You will see the screen below. Click the **Hardware** tab.
- 4.Click the “**Device Manager**” button.



5.If there is a **NEC Firewarden OHCI Compliant IEEE 1394 Host Controller** string without any yellow “!” marks or red “X” marks under the **IEEE 1394 Bus host controllers**, the OHCI driver for the CBFW1U is installed correctly.



2-4.Windows Me Installation

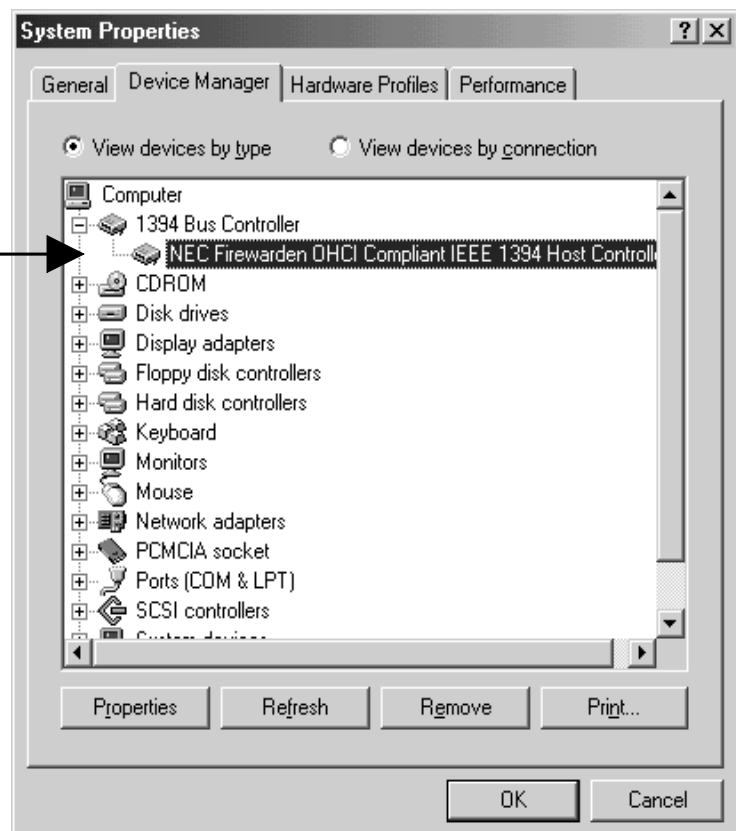
To use the CBFW1U on Windows Me, follow steps through.

Step1.Verify the OHCI driver installation

When you insert the CBFW1U into the PC Card slot, the OHCI driver is installed automatically by the Hardware Wizard. To verify the OHCI driver installation, follow steps through.

1. Click **My Computer** with the right button of the mouse.
2. Select **Properties**.
3. You will see the screen below. Click the **Device Manager** tab.
4. Double-click “**1394 Bus Controller**”.
5. If there is a **NEC Firewarden OHCI Compliant IEEE 1394 Host Controller** string without any yellow “!” marks or red “X” marks under the **1394 Bus Controller**, the OHCI driver for the CBFW1U is installed correctly.

Check here



3. Setup the 1394 Device

3-1.DVCAM Installation

This section describes how to connect a DVCAM and install the DV driver.

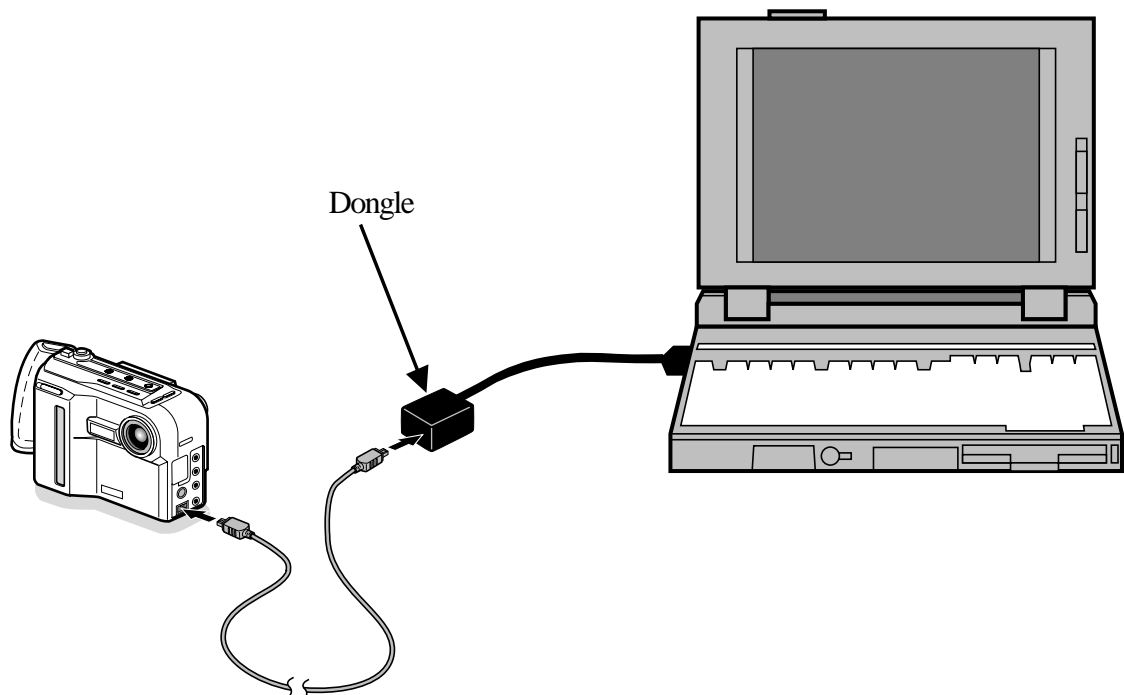
Connect the CBFW1U and a DVCAM using the CBFW1U dongle and a 1394 cable attached to the DVCAM as shown below. And you must turn the DVCAM power switch on.

When your Windows version is Windows 98, go to the section 3-1-1.

When your Windows version is Windows 98 SE(Second Edition), go to the section 3-1-2.

When your Windows version is Windows 2000, go to the section 3-1-3.

When your Windows version is Windows Me(Millennium Edition), go to the section 3-1-4.

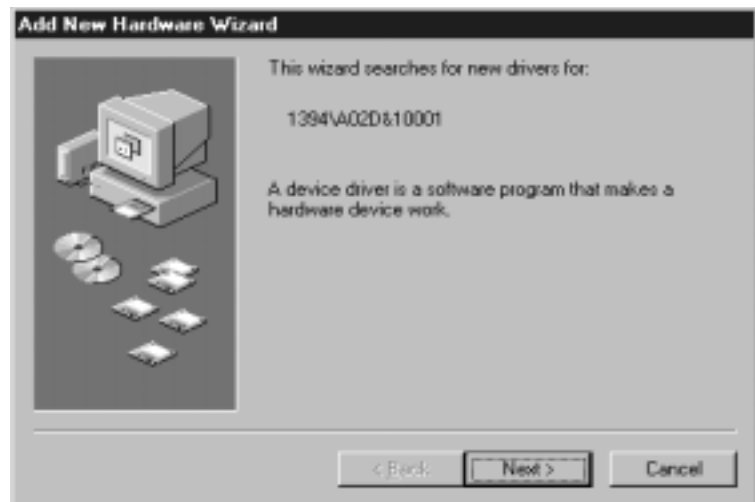


3-1-1.Windows 98 DV Driver Setup

Step 1.Install the DV driver

If you are using **Windows98**, you have to install the driver “**SONYDVCR.SYS**” attached to the **RATOC IEEE1394 PC Card CD-ROM**.The **SONYDVCR.SYS** supports standard AVC/FCP command set, so it is compatible to all DVCAMs which come from any manufacturers such as SONY, Canon, Panasonic and JVC.

- 1.For the first time, you connect your DVCAM and turn it on, Hardware Wizard will detect your DVCAM and the following screen will appear automatically. Click **[Next]**.
(If the following screen did not start, please refer to page92.)



- 2.When the following window appears, select **[Search for the best driver for your device (Recommended)]**. Then click **[Next]**.



3. When the following window appears, check “Specify a location” box and type “D:\WIN98\NTSC”, where “D” means the CD-ROM drive. If your CD-ROM drive is not “D”, you must replace “D” to the appropriate drive name. If you have a “PAL” model DVCAM, please type “D:\WIN98\PAL”. NTSC is used in the U.S.A. PAL is used in Europe and Asia(except Japan). Then insert the **RATOC IEEE1394 PC Card CD-ROM** into the CD-ROM drive and click [Next].



4. When the following window appears, click [Next].

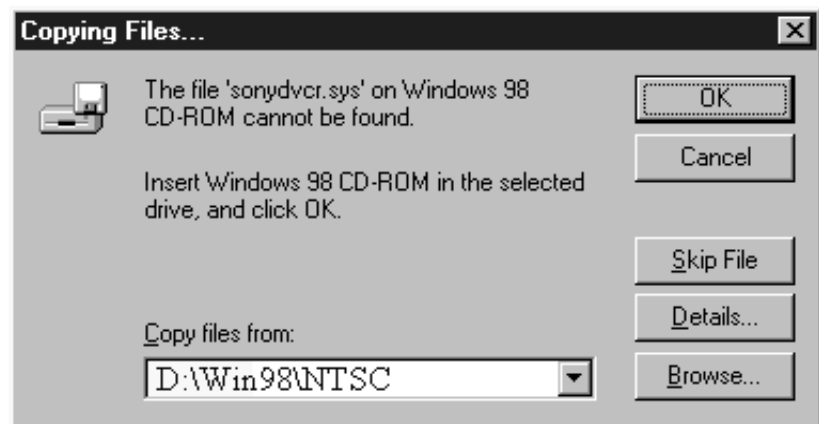


5. When the following window appears, click [OK].

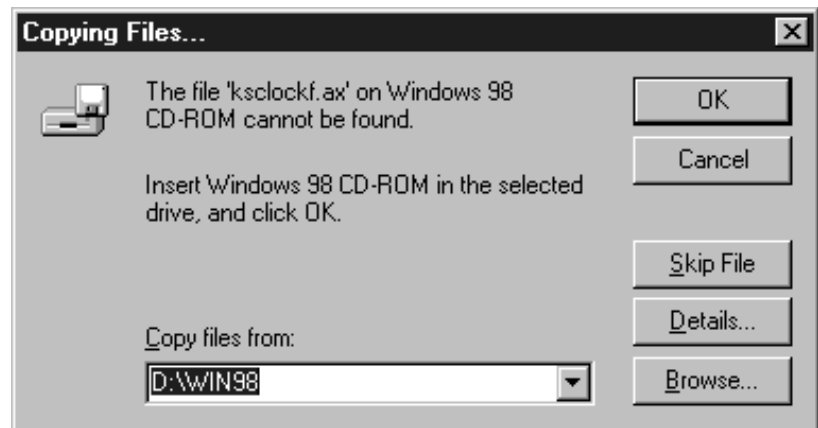


6. When the following window saying [the file 'sonydvcr.sys' on Windows98 CD-ROM cannot be found] appears, insert the **RATOC IEEE1394 PC Card CD-ROM** in the CD-ROM drive and type "**D:\WIN98\NTSC**" in the **Copy files from** box.

If you have a "**PAL**" model DVCAM, please type "**D:\WIN98\PAL**". Then click [OK].



7. If the following dialogbox saying “**The file ksclockf.ax on Windows98 CD-ROM cannot be found**” appears as shown below, insert the **Windows98 CD-ROM** in the CD-ROM drive and type “**D:\Win98**” or “**C:\Windows\options\cabs**” in the **Copy files from** box. Then click [OK]. Ksclockf.ax file is an example. This applies to all files except sonydvcr.sys file.



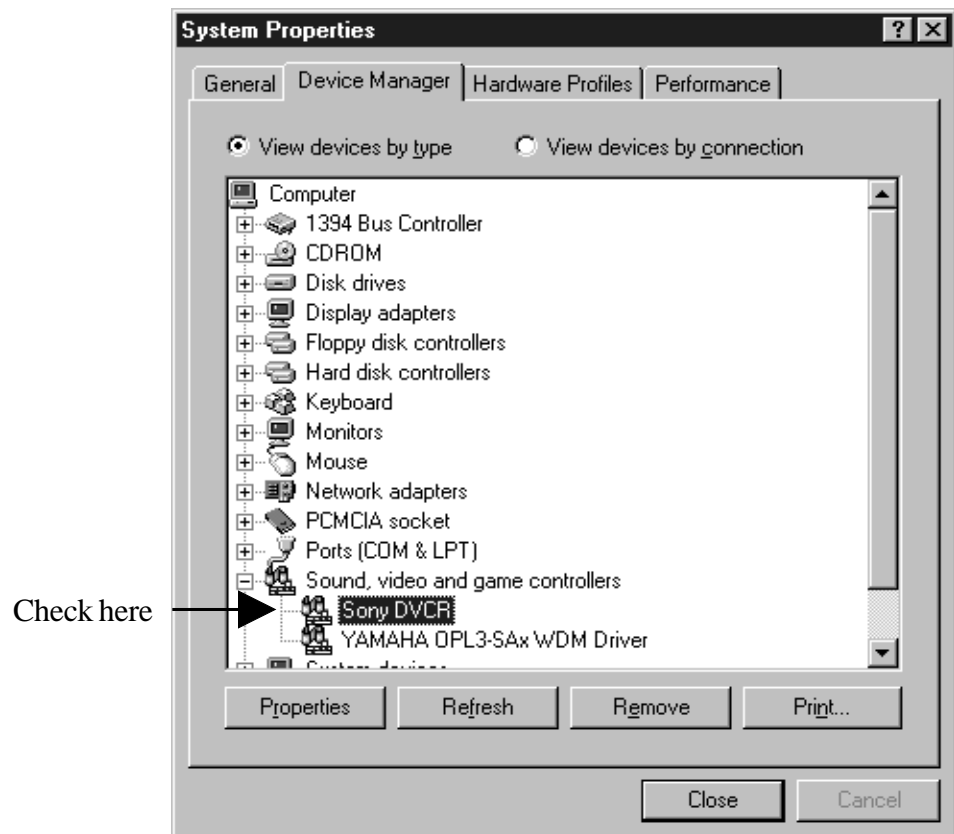
8. When the following window appears, click [Finish]. You have now completed the installation of the DV driver.



Step2. Verify the DV driver installation

To verify the DV driver installation, follow steps through.

1. Click **My Computer** with the right button of the mouse.
2. Select **Properties**.
3. Click the **Device Manager** tab.
4. If there is a **Sony DVCR** string without any yellow “!” marks or red “X” marks under the **[Sound, video and game controllers]** as shown below, the DV driver is installed correctly.



NOTE

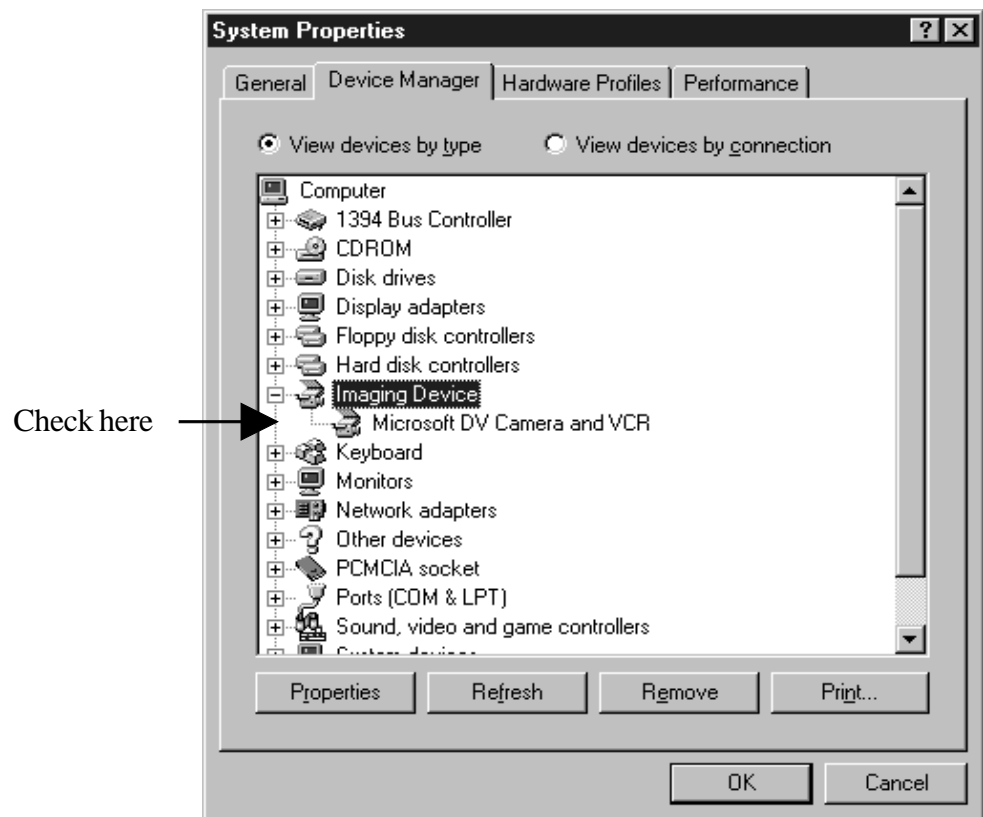
Even if you connect a DVCAM other than ones made by Sony, you will see a Sony DVCR string there.

3-1-2.Windows 98 Second Edition DV Driver Setup

Step. Verify the DV driver installation

When you connect a DVCAM on Windows 98 Second Edition, the DV driver will be installed automatically. To verify the DV driver installation, follow steps through.

- 1.Click **My Computer** with the right button of the mouse.
- 2.Select **Properties**.
- 3.Click the **Device Manager** tab.
- 4.If there is a “**Microsoft DV Camera and VCR**” string without any yellow “!” marks or red “X” marks under the [**Imaging Device**] as shown below, the DV driver is installed correctly.



NOTE

Microsoft DVCAM driver “MSDV.SYS” is compatible with all DVCAMs that supports Standard AVC/FCP command set, manufactured by SONY, Panasonic, Canon, JVC and others. You can check these DVCAMs by i-Link logo mark or DV trade mark.

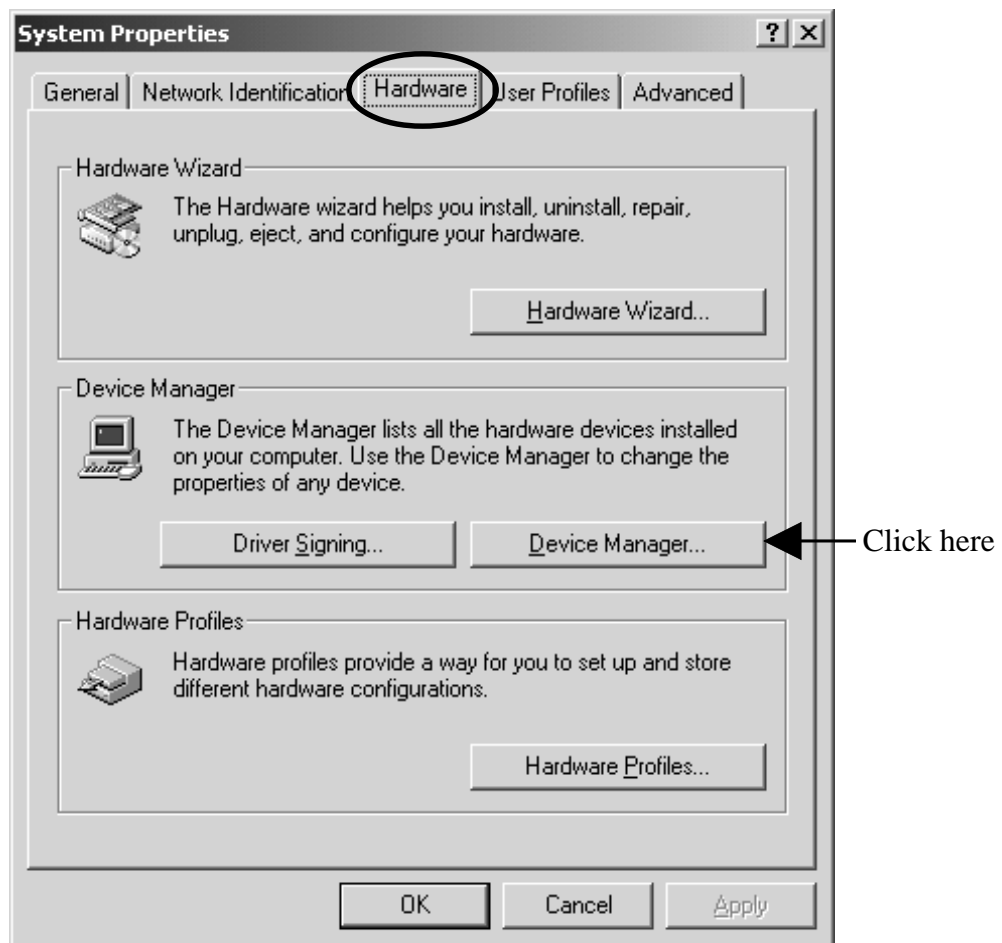
3-1-3.Windows 2000 DV Driver Setup

Step. Verify the DV driver installation

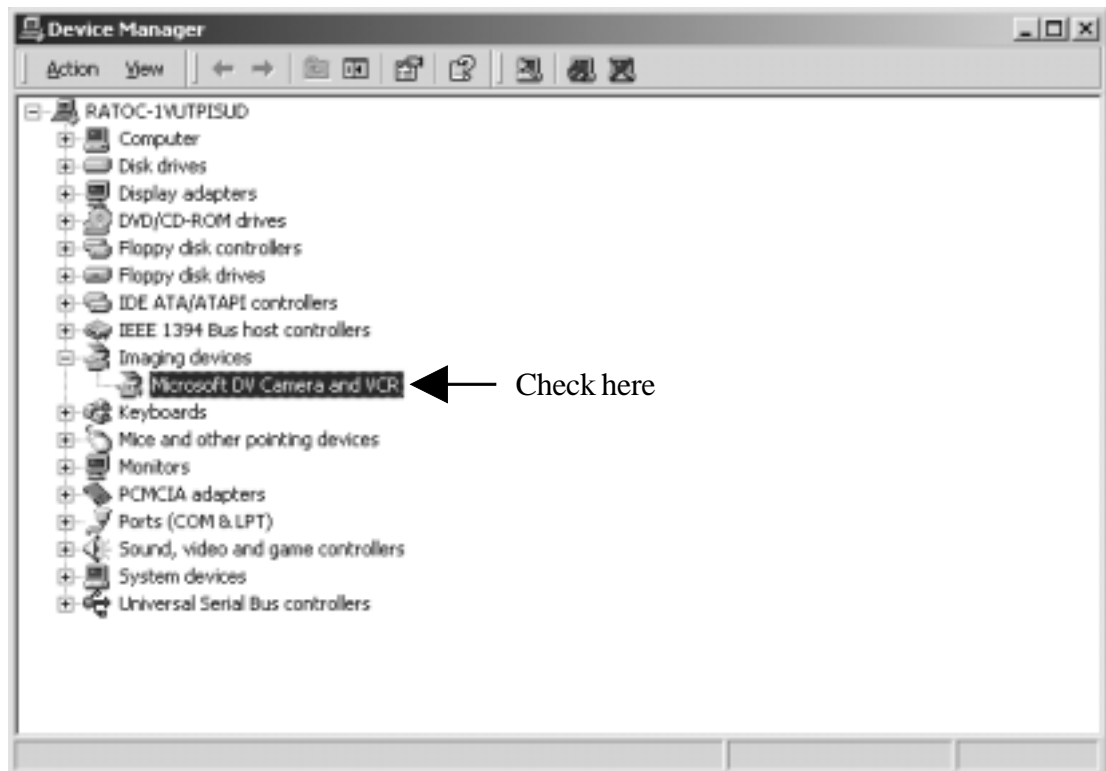
When you connect a DVCAM on Windows 2000, the DV driver will be installed automatically.

To verify the DV driver installation, follow steps through.

- 1.Click **My Computer** with the right button of the mouse.
- 2.Select **Properties**.
- 3.You will see the screen below. Click the **Hardware** tab.
- 4.Click the **Device Manager** button.



5.If there is a “**Microsoft DV Camera and VCR**” string without any yellow “!” marks or red “X” marks under the [Imaging devices] as shown below, the DV driver is installed correctly.



NOTE

Microsoft DVCAM driver “MSDV.SYS” is compatible with all DVCAMs that supports Standard AVC/FCP command set, manufactured by SONY, Panasonic, Canon, JVC and others. You can check these DVCAMs by i-Link logo mark or DV trade mark.

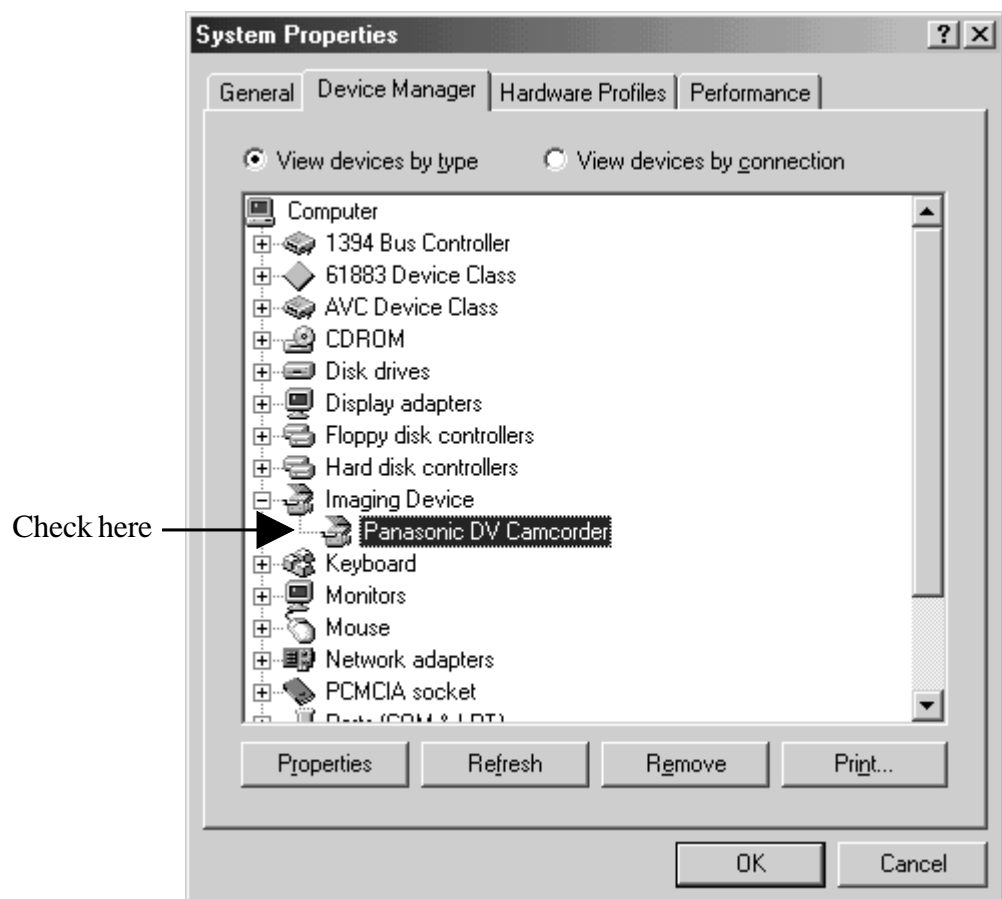
3-1-4.Windows Me DV Driver Setup

Step. Verify the DV driver installation

When you connect a DVCAM on Windows Me, the DV driver will be installed automatically.

But it may take some minutes to install it. To verify the DV driver installation, follow steps through.

- 1.Click **My Computer** with the right button of the mouse.
- 2.Select **Properties**.
- 3.Click the **Device Manager** tab.
- 4.If there is a camera name string without any yellow “!” marks or red “X” marks under the **[Imaging Device]** as shown below, the DV driver is installed correctly.



3-2.Desktop CCD Camera Installation

This section describes how to connect a CCD camera and install the driver.

Follow steps through to connect a CCD camera.

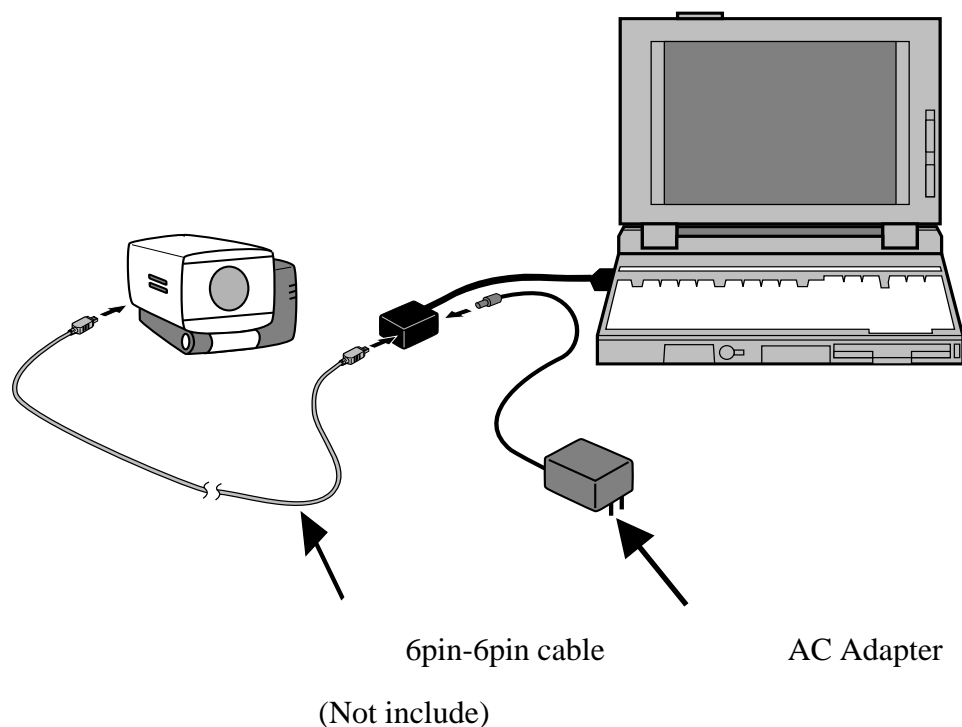
- 1.Connect the optional power supply to the dongle.
- 2.Connect a CCD camera to the CBFW1U with an IEEE1394 6pin-6pin cable.
- 3.You can connect the CCD camera without turning off the PC or CCD camera.

When your Windows version is Windows 98, go to the section 3-2-1.

When your Windows version is Windows 98 SE(Second Edition), go to the section 3-2-1.

When your Windows version is Windows 2000, go to the section 3-2-2.

When your Windows version is Windows Me(Millennium Edition), go to the section 3-2-3.



NOTE

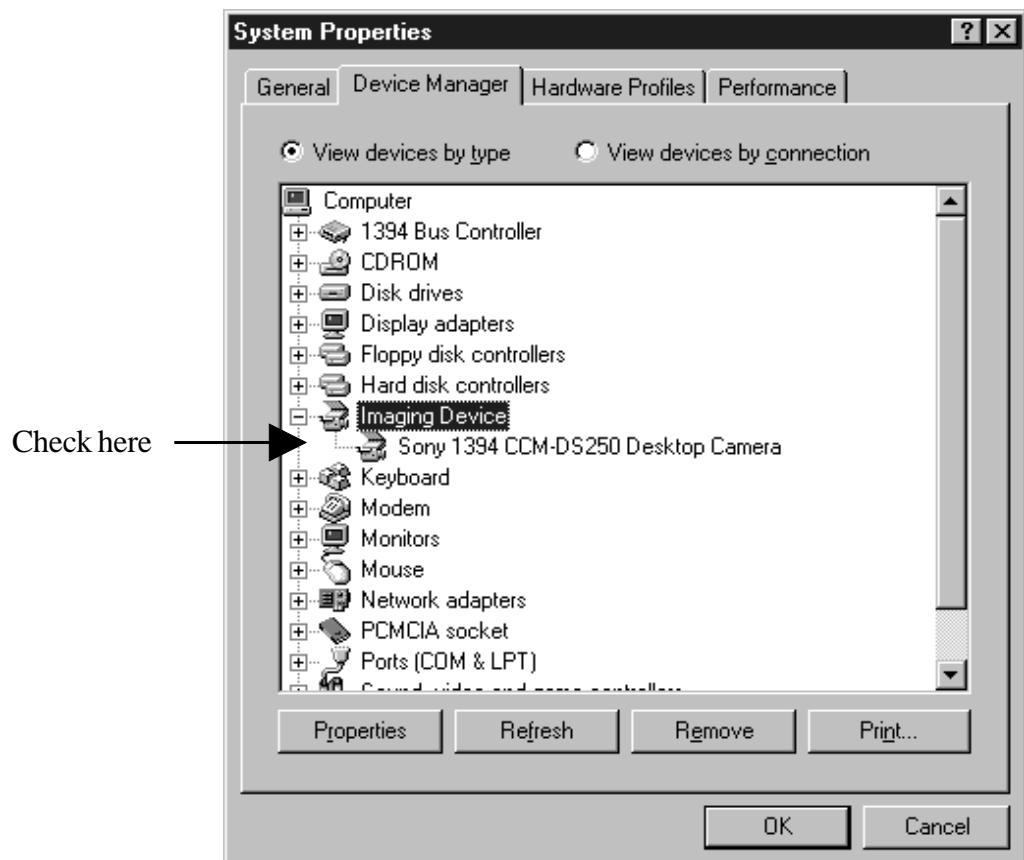
- 1.The 6 pin to 6 pin cable is not included in the CBFW1U package.
- 2.The CCD camera doesn't work without a power source, typically DC +12V, 1.2A.
You can use our optional AC power adapter, DC +12V, 1.2A.

3-2-1.Windows 98/Windows 98SE CCD Camera Setup

When the CCD camera is connected,the CCD camera will be recognized automatically.

To verify the CCD driver installation, follow steps through.

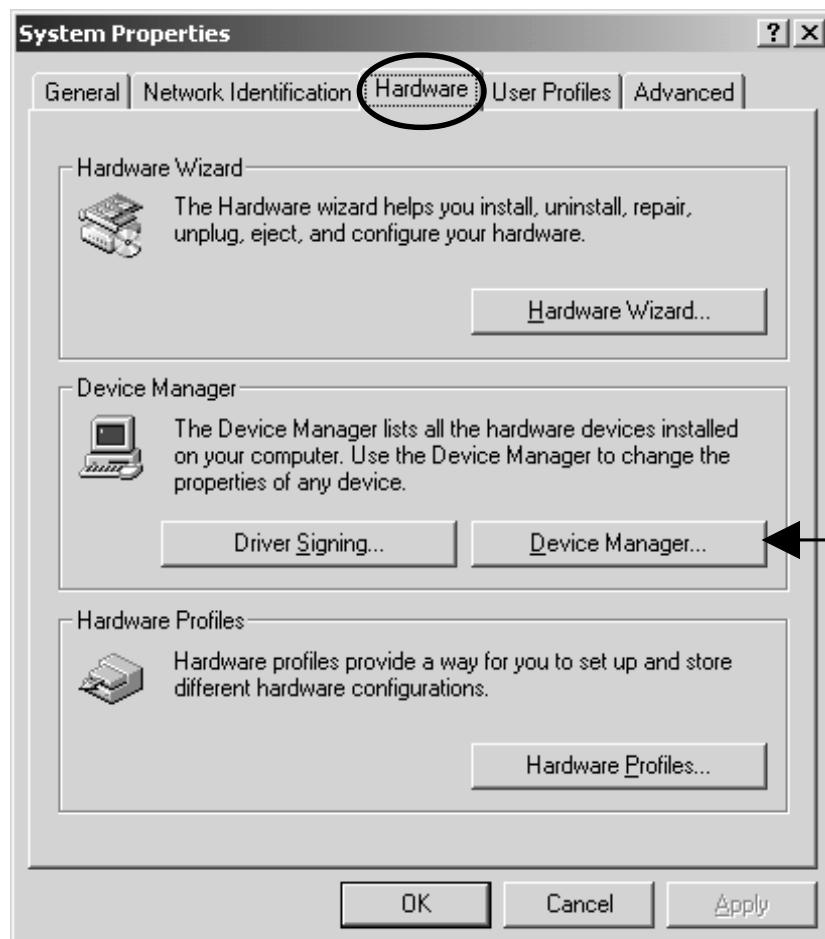
- 1.Click **My Computer** with the right button of the mouse.
- 2.Select **Properties**.
- 3.Click the **Device Manager** tab.
- 4.Double-click **“Imaging Device”**.
- 5.If there is a CCD camera name string without any yellow “!” marks or red “X” marks under the **[Imaging Device]** as shown below, the driver is installed correctly.



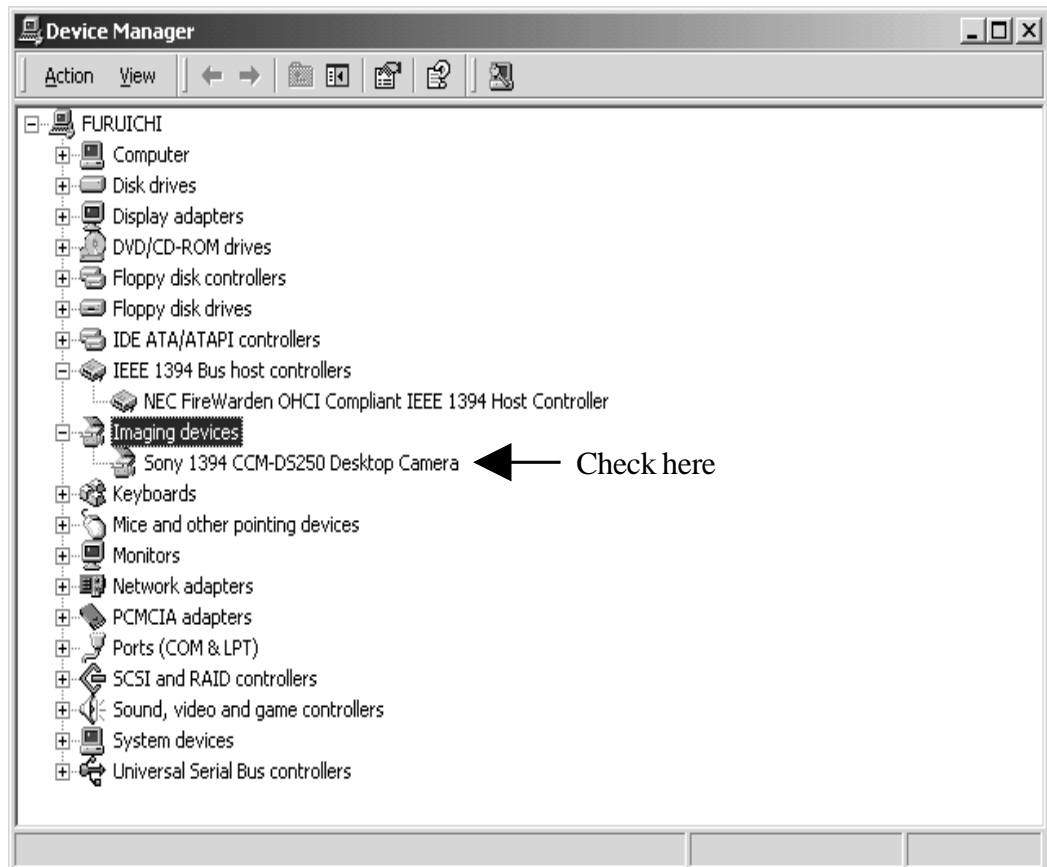
3-2-2.Windows 2000 CCD Camera Setup

When the CCD camera is connected, the CCD camera will be recognized automatically.
To verify the CCD driver installation, follow steps through.

- 1.Click **My Computer** with the right button of the mouse.
- 2.Select **Properties**.
- 3.You will see the screen below. Click the **Hardware** tab.
- 4.Click the **Device Manager** button.



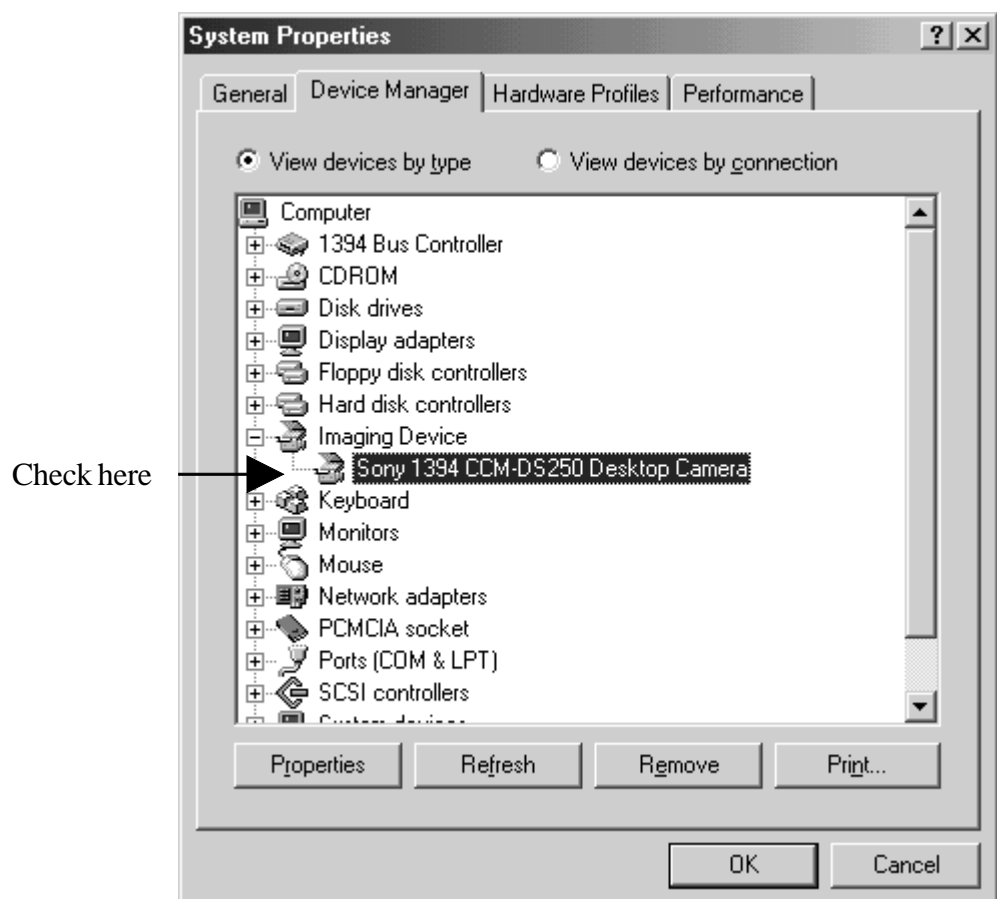
5.If there is a CCD camera name string without any yellow “!” marks or red “X” marks under the **[Imaging devices]** as shown below, the driver is installed correctly.



3-2-3.Windows Me CCD Camera Setup

But it may take some minutes to install it. To verify the CCD driver installation, follow steps through.

- 1.Click **My Computer** with the right button of the mouse.
- 2.Select **Properties**.
- 3.Click the **Device Manager** tab.
- 4.Double-click **“Imaging Device”**.
- 5.If there is a CCD camera name string without any yellow “!” marks or red “X” marks under the **[Imaging Device]** as shown below, the driver is installed correctly.



3-3.1394 Storage Installation

This section describes how to connect a 1394 storage and install the driver. 1394 storage means Hard Disk Drives(HDDs), Magneto Optical Disks(MOs), etc. Only Windows98 Second Edition, Windows 2000 or Windows Me support such 1394 storage. The cable powered HDD, MO doesn't work without a power source. You can use our AC power adapter if you use the cable powered HDD, MO.

Follow steps through to connect a 1394 Hard Disk Drive(HDD).

- 1.Connect the optional power supply to the dongle.
- 2.Connect a 1394 HDD to the CBFW1U with an IEEE1394 6pin-6pin cable.
- 3.You can connect the 1394 HDD without turning off the PC or 1394 HDD.

When your Windows version is Windows 98 SE(Second Edition), go to the section 3-3-1.

When your Windows version is Windows 2000, go to the section 3-3-2.

When your Windows version is Windows Me(Millennium Edition), go to the section 3-3-3.

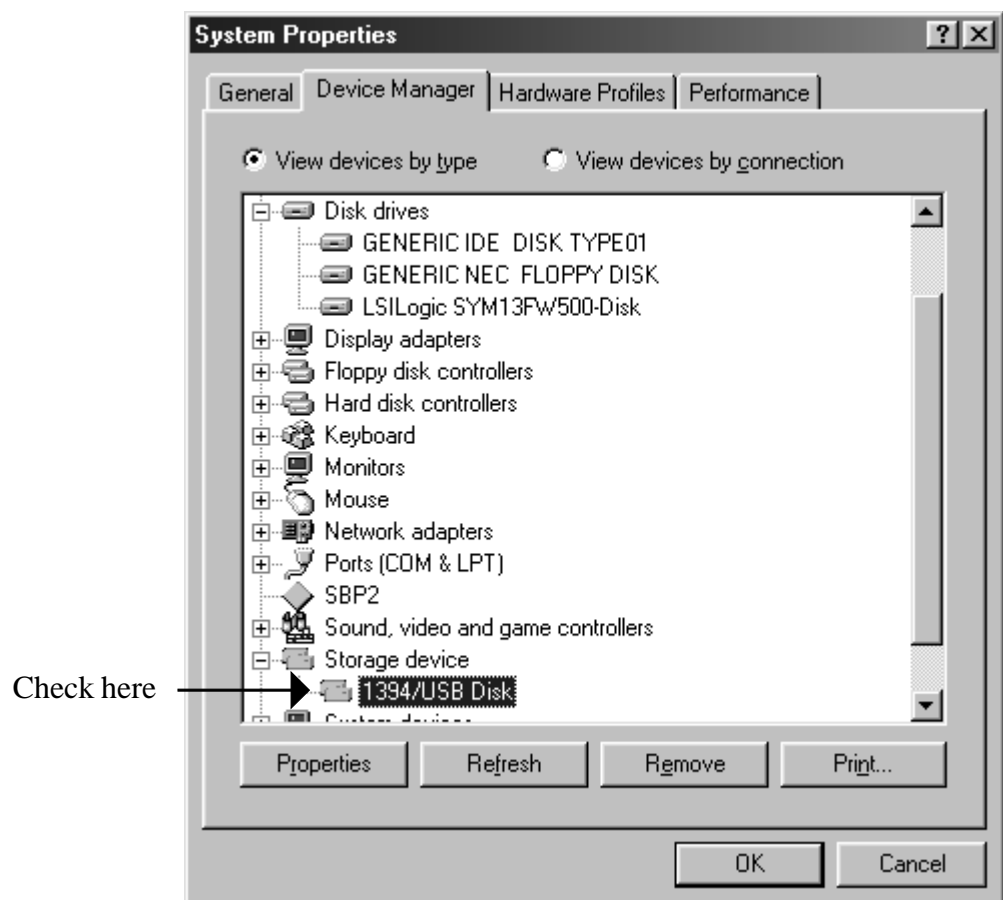
NOTE

- 1.The 6 pin to 6 pin cable is not included in the CBFW1U package.
- 2.The cable powered HDD, MO doesn't work without a power source, typically DC +12V, 1.2A. You can use our optional AC power adapter, DC +12V, 1.2A.

3-3-1.Windows 98 SE 1394 Storage Setup

When the 1394 HDD is connected, Window98 Second Edition will install the driver automatically. To verify the 1394 storage driver installation, follow steps through.

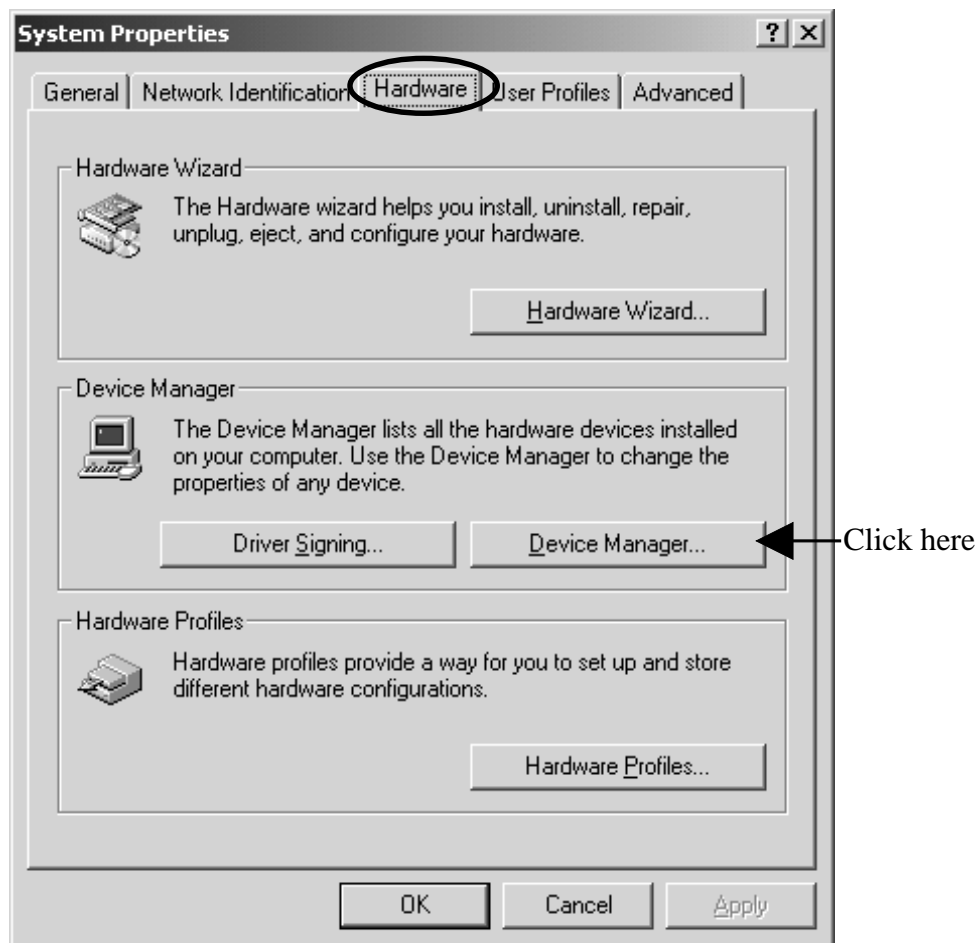
- 1.Click **My Computer** with the right button of the mouse.
- 2.Select **Properties**.
- 3.You will see the screen below. Click the **Device Manager** tab.
- 4.Doble-click “**Storage device**”.
- 5.If there is a **1394/USB Disk** string without any yellow “!” marks or red “X” marks under the [Storage device] as shown below, the 1394 storage driver is installed correctly.



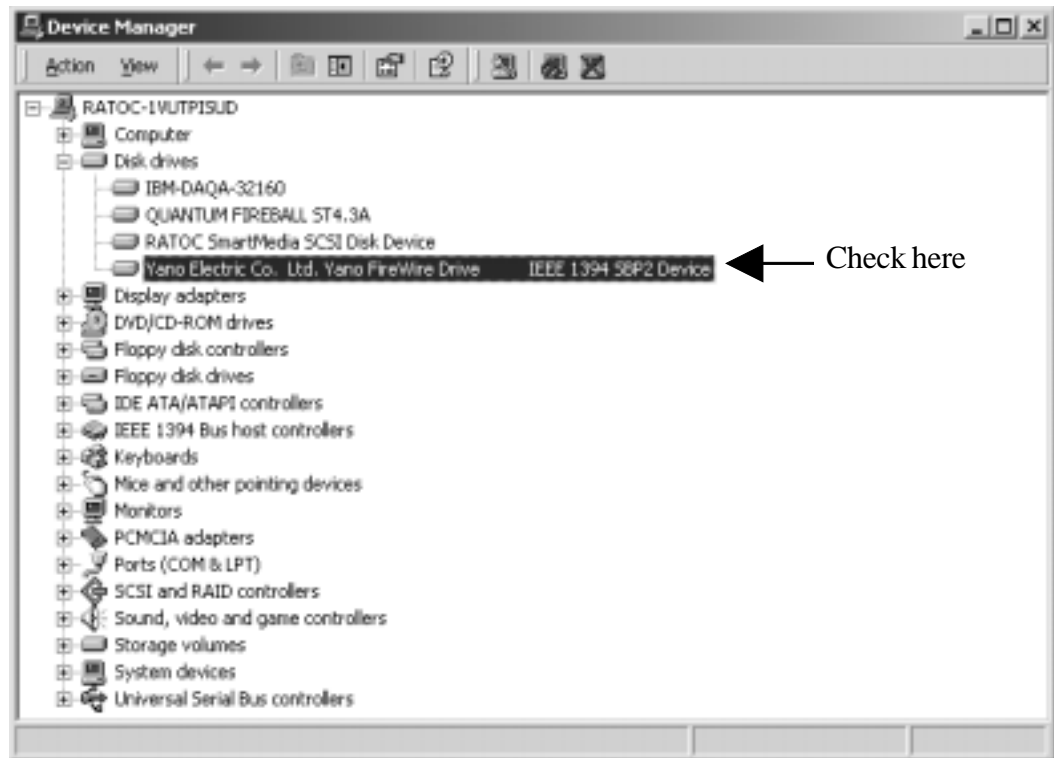
3-3-2.Windows 2000 1394 Storage Setup

When the 1394 HDD is connected, Window2000 will install the driver automatically.
To verify the 1394 storage driver installation,follow steps through.

- 1.Click **My Computer** with the right button of the mouse.
- 2.Select **Properties**.
- 3.You will see the screen below. Click the **Hardware** tab.
- 4.Click the **Device Manager** button.



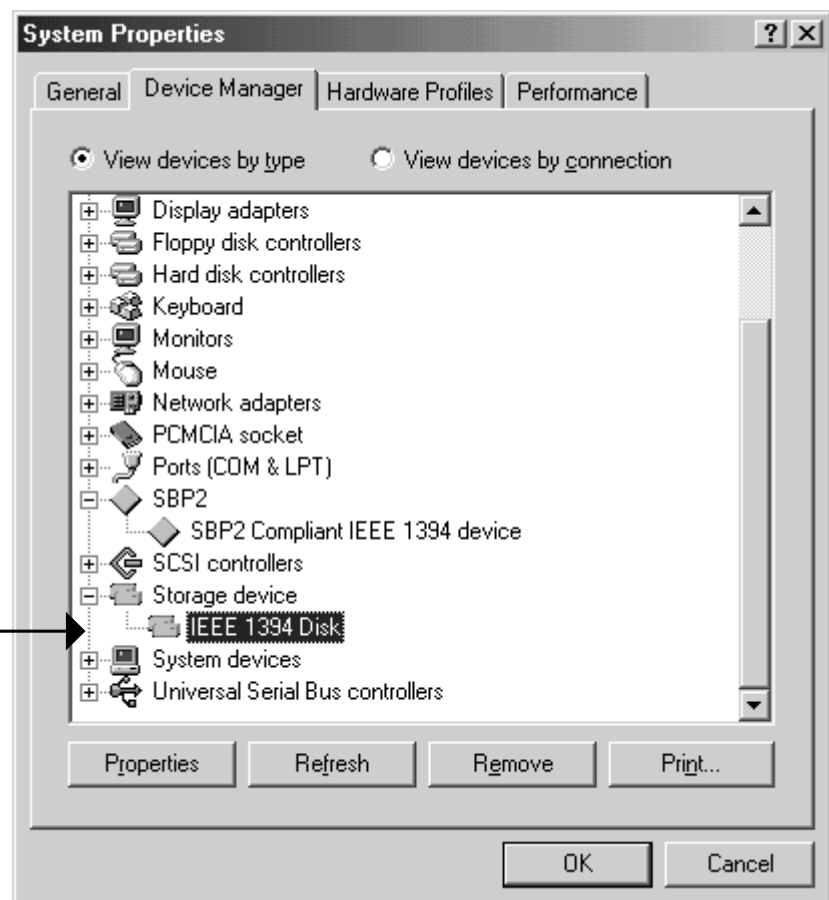
5.If there is a 1394 HDD name string without any yellow “!” marks or red “X” marks under the **[Disk drives]** as shown below, the 1394 storage driver is installed correctly.



3-3-3.Windows Me 1394 Storage Setup

When the 1394 HDD is connected, Window Me will install the driver automatically. But it may take some minutes to install it. To verify the 1394 storage driver installation, follow steps through.

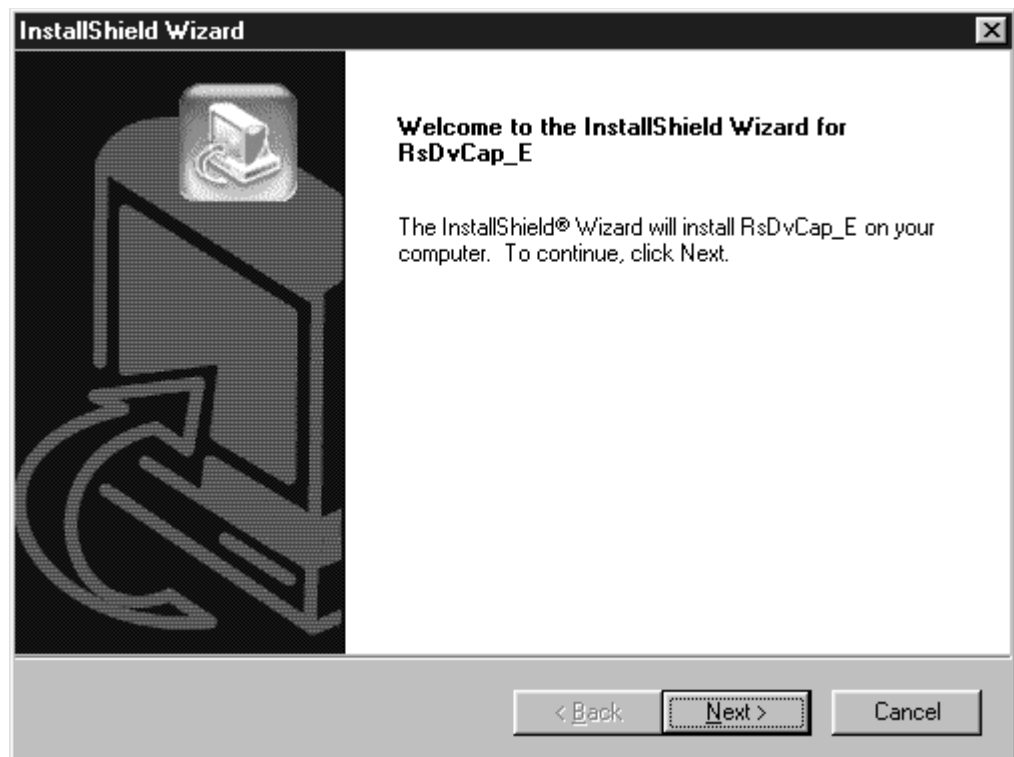
- 1.Click **My Computer** with the right button of the mouse.
- 2.Select **Properties**.
- 3.You will see the screen below. Click the **Device Manager** tab.
- 4.Doubl-click “**Storage device**”.
- 5.If there is a **IEEE 1394 Disk** string without any yellow “!” marks or red “X” marks under the [Storage device] as shown below, the 1394 storage driver is installed correctly.



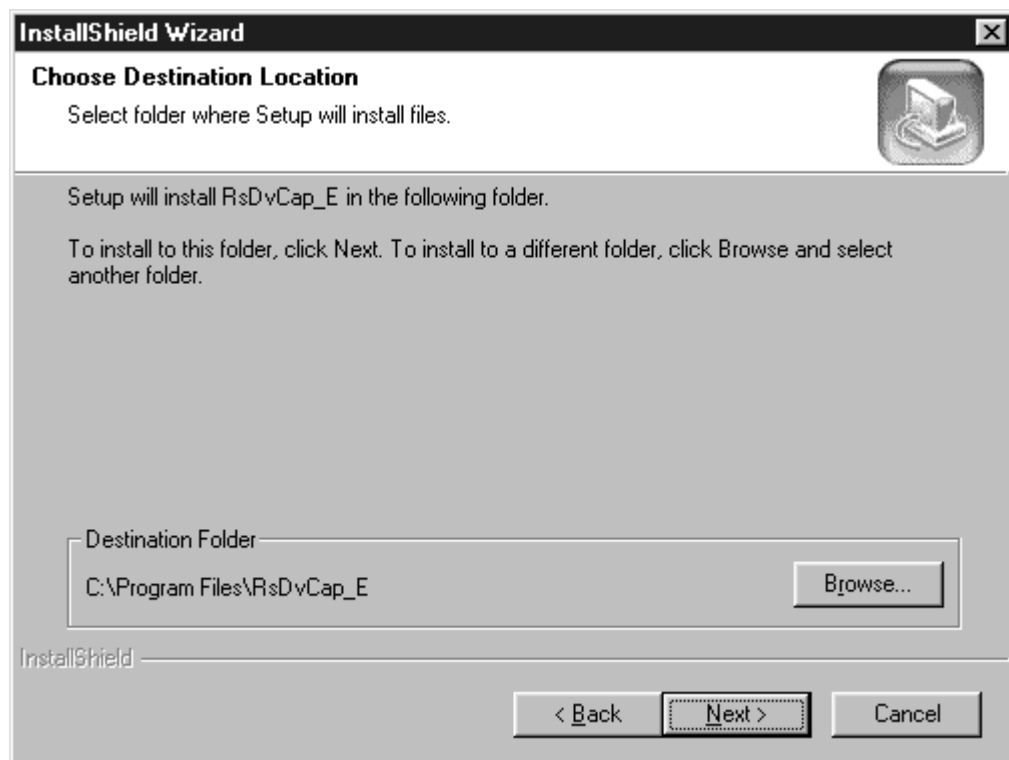
4. Setup RsDvCap

4-1.Installing RsDvCap/RsDvStill/CompressAVI

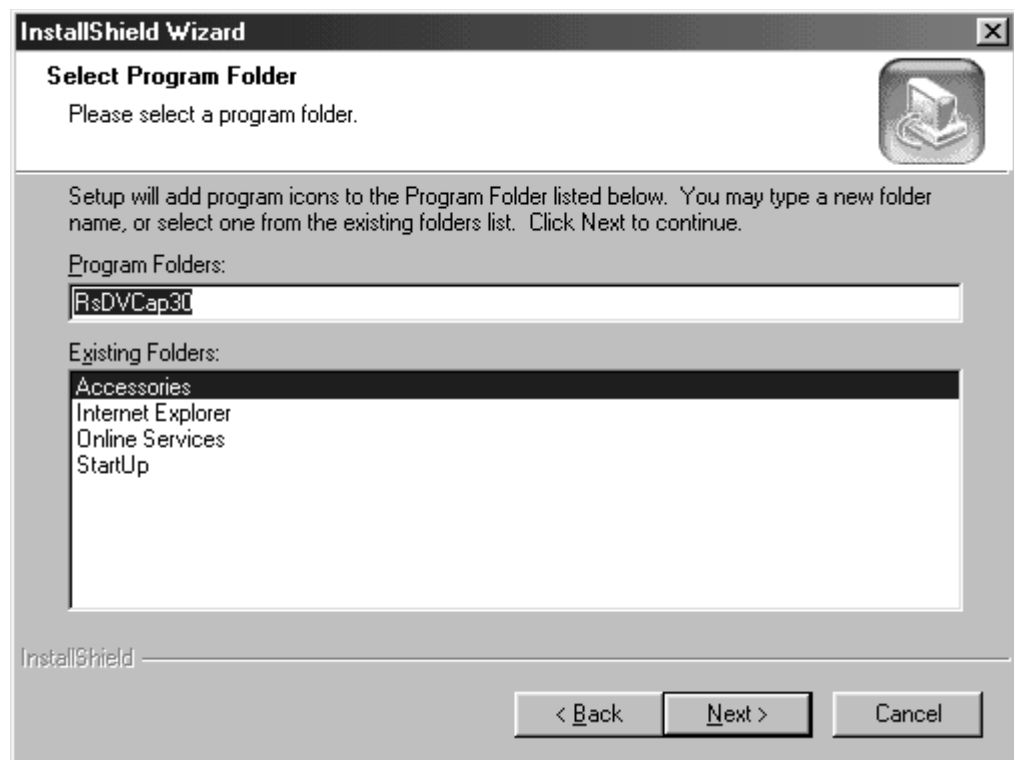
- 1.Close all programs currently running on your computer.
- 2.Set the **RATOC IEEE1394 PC Card CD-ROM** in your CD-ROM drive.
- 3.Open [**My Computer**] and double-click CD-ROM drive icon.
- 4.Open [**Win98**], [**Win98SE**], [**Win2000**] or [**WinMe**] folder.
If your Windows version is Windows98, open [**Win98**] folder.
If your Windows version is Windows98 SE(Second Edition), open [**Win98SE**] folder.
If your Windows version is Windows2000, open [**Win2000**] folder.
If your Windows version is Windows ME(Millennium Edition), open [**WinMe**] folder.
- 5.Double-click the [**RsDvCap**] folder.
- 6.Double-click on [**Setup.exe**] to install the RsDvCap software.
- 7.You will see the screen below.Click [**Next**].



8. You will see the screen below. Click **[Next]**.



9. You will see the screen below. Click **[Next]**.



10. You will see the screen below.

Select **[Yes, I want to restart my computer now]** and click **[Finish]**.

You have now completed installing the capture software.



4-2.Installing DirectX Media6.0 for Windows98 only

Install [**DirectX Media 6.0 Runtime**] only when you use **Windows98**.

You don't need to install [**DirectX Media 6.0 Runtime**] when you use **Windows98 SE(Second Edition)**, **Windows2000** or **Windows ME(Millennium Edition)**.

Follow steps through to install DirextX Media 6.0 Runtime.

- 1.Set the **RATOC IEEE1394 PC Card CD-ROM** into your CD-ROM drive.
- 2.Open [**My Computer**] and double-click CD-ROM drive icon.
- 3.Double-click [**Win98**] folder and double-click the [**Dxmedia**] folder.
- 4.Double-click on [**Setup.exe**].

After installing this DirectX Media 6.0 Runtime Library, you have to **restart** your PC.

4-3.Installing MSDV update for Windows98 SE only

Install MSDV update program(**252640USA8.EXE**) only when you use **Windows98 SE(Second Edition)**. If you use Windows98, Windows2000 or Windows ME(Millennium Edition), skip this installation of MSDV update program.

Follow steps through to install MSDV update program.

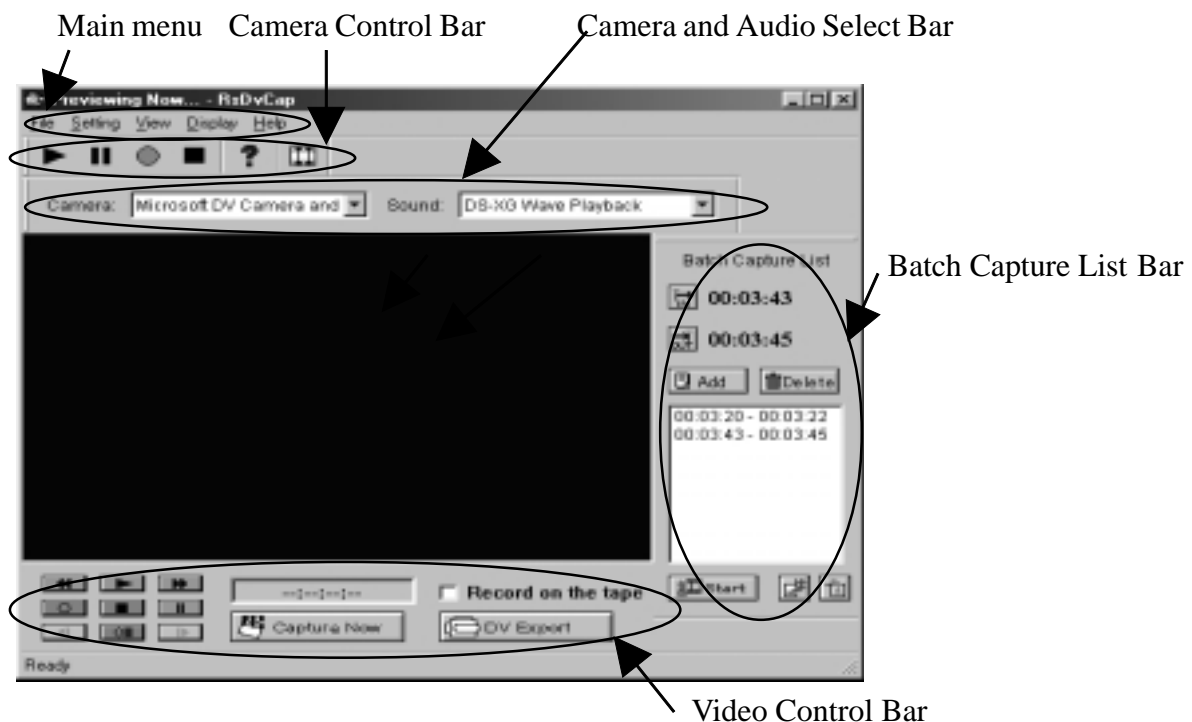
- 1.Set the **RATOC IEEE1394 PC Card CD-ROM** into your CD-ROM drive.
- 2.Open [**My Computer**] and double-click CD-ROM drive icon.
- 3.Double-click [**Win98se**] folder and double-click the [**DvPatch**] folder.
- 4.Double-click on [**252640USA8.EXE**].

5. How to use RsDvCap

What is the RsDvCap?

This application software has the following functions.

- Preview and capture video/sound data from a DVCAM.
- Preview and capture video data from a CCD camera.
- Export media file from a PC to a DVCAM.
- Playback media file.



RsDvCap Main Screen

NOTE

- 1.This software uses Microsoft standard DV-AVI2 format video file.
- 2.To capture correct DV file, you have to use original DV footages which has continuous Timecode(recording). If the original DV footage has intermittent Timecode, sometimes it may cause system freeze or may not be captured.

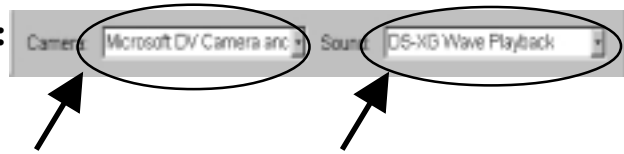
5-1.Main menu:



Top menu	Sub menu	Description
File	Review movie file	Select an AVI file you want to play back.
END		Terminate this application.
Setting	DV Batch Capture	Show batch capture dialog box.Refer to 5-6.DV Batch Capture .
	Application Setting	Show RsDvCap parameter setting dialog box. Refer to 5-3.Application settings .
Cam Setting		Show CCD camera control dialog box.
View	Camera Audio Select Bar	Show Camera and Audio Select Bar . Refer to 5-2-1.Camera and Audio Select Bar .
	Camera Control Bar	Show the DVCAM camera mode control bar. You can control a DVCAM.Refer to 5-2-2. Camera Control Bar .
	Video Control Bar	Show the DVCAM video mode control bar. You can control a DVCAM.Refer to 5-2-3. Video Control Bar .
	Batch Capture List	Show the Batch Capture List Bar.You can capture favorite scenes in a DV tape to your HDD.Refer to 5-6.DV Batch Capture .
Display		Select the size of the preview window. The preview window of the [PC] is 4:3. The preview window of the [DV] is 3:2.

5-2.Control Bars

5-2-1.Camera and Audio Select Bar:



Camera list box

Sound device list box

This bar has the **Camera list box** and **Sound device list box** as shown above. **Camera list box** displays a list of camera device connected to your PC. If this list box is blank, your camera isn't recognized. When you use Windows98, “**Sony DV Camcorder**” string will appear. When you use Windows98 SE(Second Edition), Windows 2000 or Windows Me(Millennium Edition), “**Microsoft DV Camera and VCR**” string will appear. **Sound device list box** displays a list of sound device.

5-2-2.Camera Control Bar :



You can preview and capture a video image from the connected DVCAM. The bar will appear automatically when the DVCAM is set to camera mode. The DVCAM have a switch which selects video mode or camera mode. Set this switch to camera mode to preview and capture a video image.



....When you click this button, you can preview a video image.



....When you click this button, you can pause a video image.



....When you click this button, you can capture a video image to the HDD.



....When you click this button, you can stop previewing or capturing a video image.



.....When you click this button, you will see the Help contents.












.....When you click this button, you can play back an AVI file.

5-2-3.Video Control Bar :



You can control a DVCAM from this control bar. The DVCAM have a switch which select video mode or camera mode. If you set this switch to camera mode or a DV tape is not inserted, this control bar will be disabled automatically. Set this switch to video mode to control the DVCAM.

The functions are below:

-  ...Rewind
-  ...Previous frame
-  ...Play
-  ...Next frame
-  ...Pause
-  ...Stop
-  ...Fast forward
-  ...Record
-  ...Pause recording



When you click the **Capture Now** button, you can start to capture DV data from a DVCAM. The [**Capture Now**] will change to [**Capture Stop**].

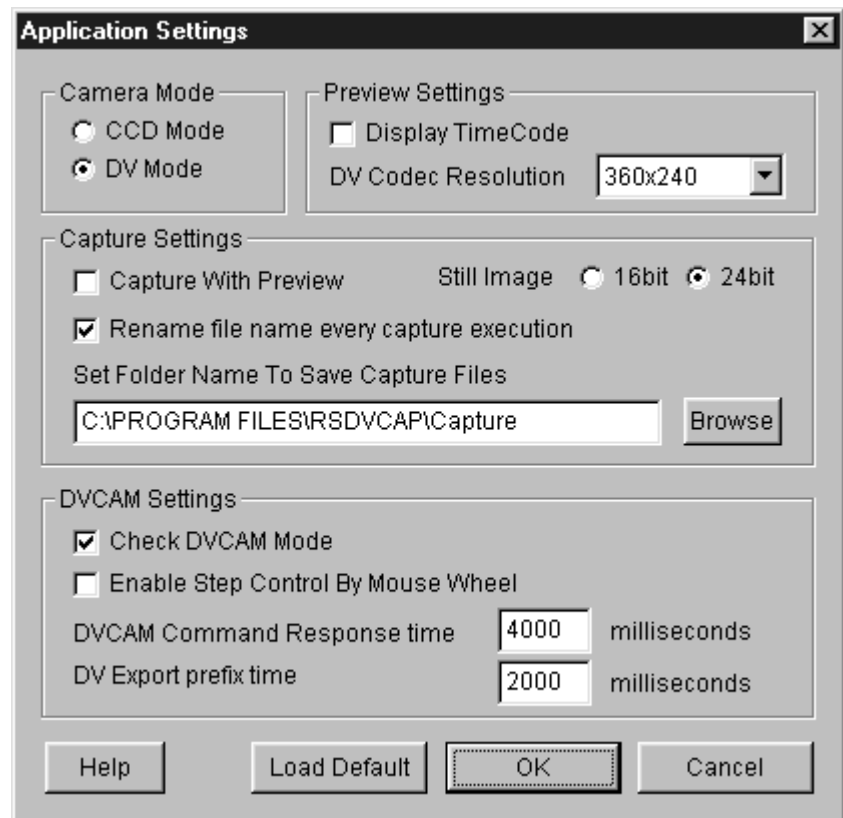


When you click the **DV Export** button, you can export DV data to a DVCAM. You can see the DV data on the screen of the DVCAM.

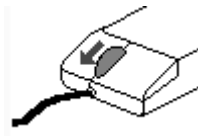
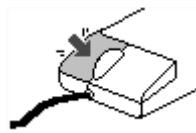
- 1.If you don't want to record DV data onto your DV tape, don't check "**Record on the tape**".
- 2.If you really want to record DV data onto your DV tape, check "**Record on the tape**".

5-3.Application settings

When you select [**Application setting**] of the [**Setting**] menu, you will see the dialog box below.
You can set up this application's behavior.



Category	Item	Description
Camera Mode	CCD Mode	Select when you use a CCD camera.
	DV Mode	Select when you use a DVCAM.
Preview Settings	Display TimeCode	If checked, timecode will be displayed.
	DV Codec Resolution	You can select DV Codec Resolution. If you select a higher resolution, you will get a better image. This DV Codec Resolution affects only the preview quality.
Capture Settings	Capture With Preview	If checked, video images will be displayed in the preview window during capturing video stream. When you check here, it will be a heavy load on your PC. If you have problems of dropping frames or sounds, don't check this option.
	Rename file name every capture execution	If checked, every time you start and stop capturing a video, the file rename dialogbox will appear. You can set a file name and location to save the file in. If you don't check here, a captured file will be saved automatically under the name of CAPTIVE+(Time)+Year+(Date).AVI in the folder you set at "Set Folder Name To Save Capture Files" .

Category	Item	Description
DVCAM Settings	Check DVCAM Mode	<p>If you click here, this application will detect whether your DVCAM is in camera mode or video mode automatically. If your DVCAM is in video mode, the Camera Control Bar will disappear. If your DVCAM is in camera mode, the Camera Control Bar will appear and the Video Control Bar will be disabled.</p>
	Enable Step Control By Mouse Wheel	<p>If you check here, you can control a camera with your mouse as shown below.</p> <p>1) When you click wheel, a DVCAM starts to play.</p>  <p>2) When you turn wheel down, a DVCAM starts to rewind.</p>  <p>3) When you turn wheel up, a DVCAM starts to fast forward.</p>  <p>4) When you click the right button, a DVCAM stops.</p> 

Category	Item	Description
	DVCAM Command Response time	When you control a DVCAM from the PC consecutively, it takes some time for the DVCAM to get ready for a next command from the PC. This time depends on the DVCAM. If you have trouble in controlling the DVCAM from the PC consecutively, change this value to a longer time than 4 seconds. Default time is 4 seconds. For example, 5 seconds.
	DV Export prefix time	When you export an AVI file to a DVCAM, there is data prefix time from starting to export the AVI file to recording it onto a DV tape. The data prefix time results in failing to record the beginning of the AVI file onto the DV tape. To avoid this problem, you can set a time here. During the time you set here, blank data will be exported to the DVCAM and it avoids failing to record the beginning of the AVI file onto the DV tape.

5-4.Capturing a video from a DVCAM in camera mode


When you want to capture a video image from a DVCAM set to camera mode, follow steps through.


1. Confirm a DVCAM is set to camera mode.

Camera mode means you can capture a video image. If your DVCAM is in video mode, change mode selection switch from video mode to camera mode slowly. Everytime you change DVCAM's Mode Control switch, move this switch to OFF position and confirm that the RsDvCap's Camera device name will disappear. After that, you can change this switch to your choice and the camera device name will appear.

2. Select **[DV mode]** on the **[Application Setting]** as shown in **5-3.Application settings**.

3. Click the  button on the **Camera Control bar**. A video image from a DVCAM will appear.

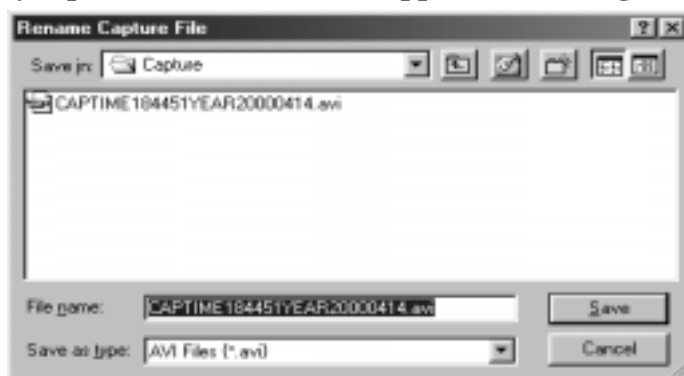
4. Click the  **Capture Now** button to start capturing.

5. Click the  **Capture Stop** button to stop capturing.

You can also stop capturing by using the  button on the **Camera Control Bar** or pressing **ESC** button on the keyboard.

6. If you checked **[Rename file name every capture execution]** on the **[Application Setting]**, You will see the window. You can rename the captured file.

7. The file will be saved in the folder you set at **[Set Folder Name To Save Capture Files]** on the **[Application Setting]**.



NOTE

When you preview, it puts some load on PCs. If data loss happens, don't check **[Capture With Preview]** on the **[Application Setting]**. For more information, please refer to page **10-5.When playing back the captured file is choppy or jerky in 10.Troubleshooting**.


5-5.Capturing a video from a DV tape


When you want to capture a video image from a DV tape, follow steps through.

1. Set a DV tape in a DVCAM and confirm the DVCAM mode is set to video mode.

Video Mode means you can control a video of a DV tape. If your DVCAM is in camera mode, change mode selection switch from camera mode to video mode slowly as mentioned **5-4.Capturing a video from a DVCAM in camera mode**.

- 2.Select **[DV mode]** on the **[Application Setting]** as shown in **5-3.Application settings**.

- 3.When you click the  DV play button on the **Video Control Bar**, the DV tape will start to play and a video image of the DV tape will appear in the preview window.

- 4.Click the  **Capture Now** button to start capturing.

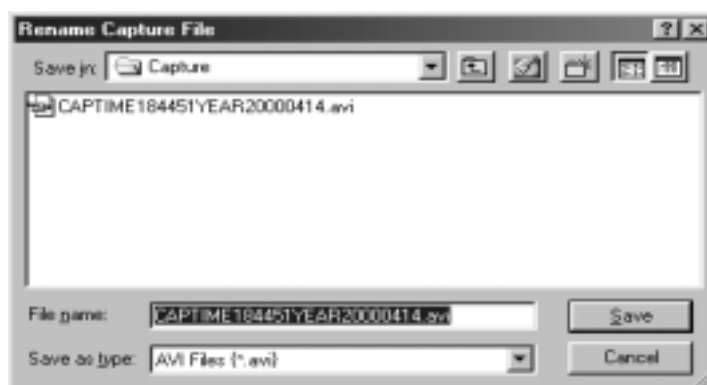
- 5.Click the  **Capture Stop** button to stop capturing.

You can also stop capturing by using the  stop button on the **Video Control Bar** or pressing **ESC** button on the keyboard.

6. If you checked **[Rename file name every capture execution]** on the **[Application Setting]**,

You will see the window.You can rename the captured file.

- 7.The file will be saved in the folder you set at **[Set Folder Name To Save Capture Files]** on the **[Application Setting]**.



NOTE


- 1.When you preview, it puts some load on PCs. If data loss happens, don't check **[Capture With Preview]** on the **[Application Setting]**. For more information, please refer to page 10-5.When playing back the captured file is choppy or jerky in 10.Troubleshooting.
- 2.To capture correct DV file, you have to use original DV footages which has continuous Timecode(recording). If the original DV footage has intermittent Time code, sometimes it may cause system freeze or may not be captured.


5-6.DV Batch Capture


Batch capture function saves video images files as your time scheduling. To batch capture video images from a DV tape, follow steps through.


1.To show the Batch Capture Window as shown right, select **[Batch Capture List]** of the **[View]** in the system menu.

2.Set a DV tape in a DVCAM and confirm the DVCAM mode is set to video mode. Video Mode means you can control a video of a DV tape. If your DVCAM is in camera mode,change mode selection switch from camera mode to video mode slowly as mentioned **5-4.Capturing a video from a DVCAM in camera mode.**


3. Click the  DV play button on the **Video Control Bar** to play the DV tape.

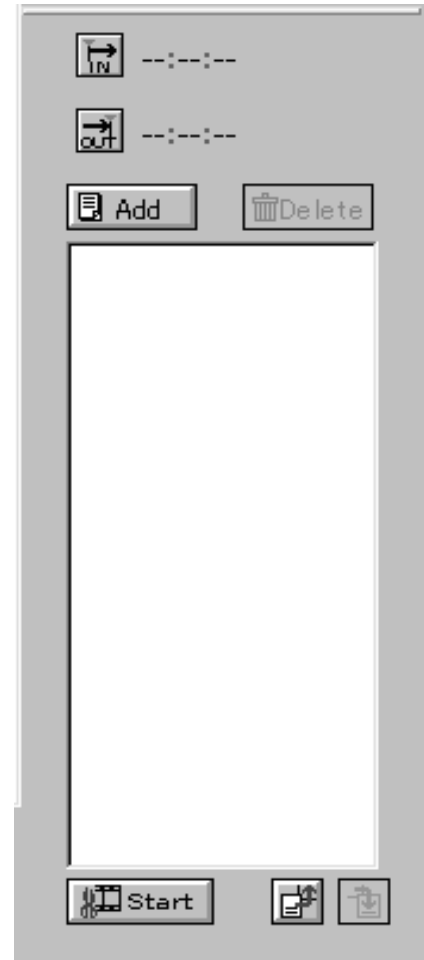
4. Click the  In point button when you want to start capturing.

5. Click the  Out point button when you want to stop capturing.

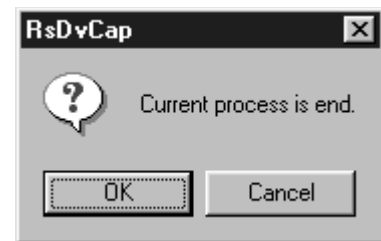
6. Click the  Add button to add time code to the window as shown above.

To capture other Video images of the DV tape, repeat the steps from 4 to 6.

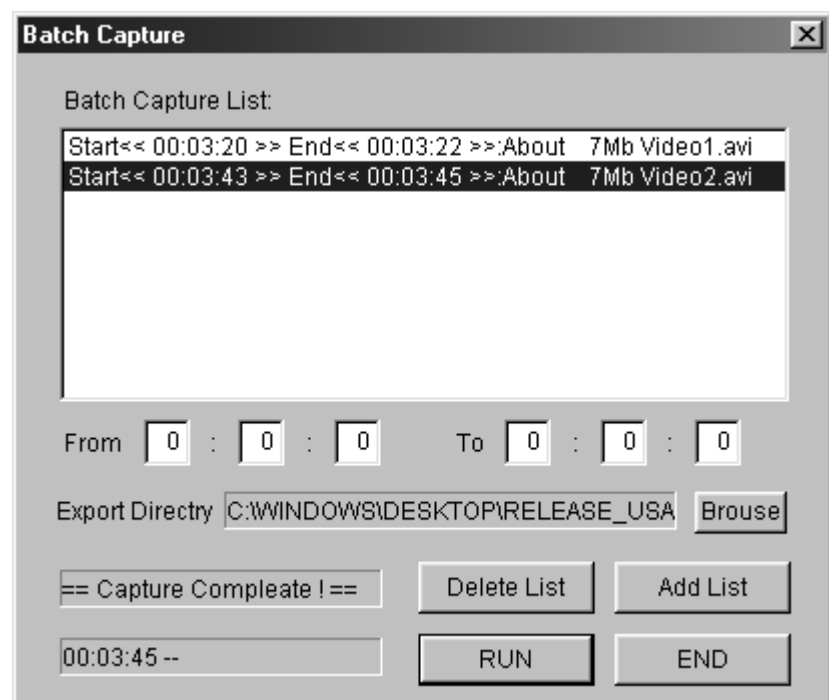
7.Click the  start button to show the Batch Capture dialog box as shown in the next page.



8. You will see the screen. Click **[OK]** to continue.



9. The Batch Capture dialog box will be shown. Click **[RUN]** to start batch capture. This application searches automatically the timecode you have just set and starts to capture video images and saves the file in the folder written in the “**Export Directory**” under the name of **Video + (number)** starting 1 + **.avi** as shown below. When batch capture is finished, “**Capture Complete!**” message will appear. Click **[END]** to finish batch capture.



NOTE

To capture correct DV file, you have to use original DV footages which has continuous Timecode(recording). If the original DV footage has intermittent Timecode, sometimes it may cause system freeze or may not be captured.

5-7.Exporting a video data to a DVCAM

When you want to export an video data to a DVCAM, follow steps through.

1. Set a DVCAM to video mode.

Video Mode means you can control a video of a DV tape.

If your DVCAM is in camera mode, change mode selection switch from camera mode to video mode slowly as mentioned **5-4.Capturing a video from a DVCAM in camera mode.**



2. Click the DV Export button. The File select dialog box will appear. Select an AVI file you want to export, and click [SAVE] button. The AVI data will be exported to the DVCAM.

When you check **“Record on the tape”**, **“Video image”** and **“Rec command”** will be sent to the DVCAM. This means the AVI file will be really overwritten to your DV tape. So, you should be careful not to overwrite important DV tapes.

When you don't check **“Record on the tape”**, only **“Video image”** will be sent to the DVCAM. This means the AVI file will not be overwritten to your DV tape. You can see the video image on the screen of the DVCAM.

NOTE

There is time-delay between start of video stream and the DVCAM actually starting to record. So for a few seconds at the head of video stream, nothing will be recorded on your DV tape.

- 3.Click the  stop button in the **Camera Control Bar** to stop exporting.

NOTE

- 1.**Only a Microsoft DV AVI 2.0 with DVSD(Digital Simultaneous Voice and Data) can be exported to a DVCAM.**
- 2.**If you can not to export clear video data, refer to 10-2. or 10-3.When you can not export smooth and clear video image to a DVCAM in 10.Troubleshooting.**

6. How to use RsDvStill

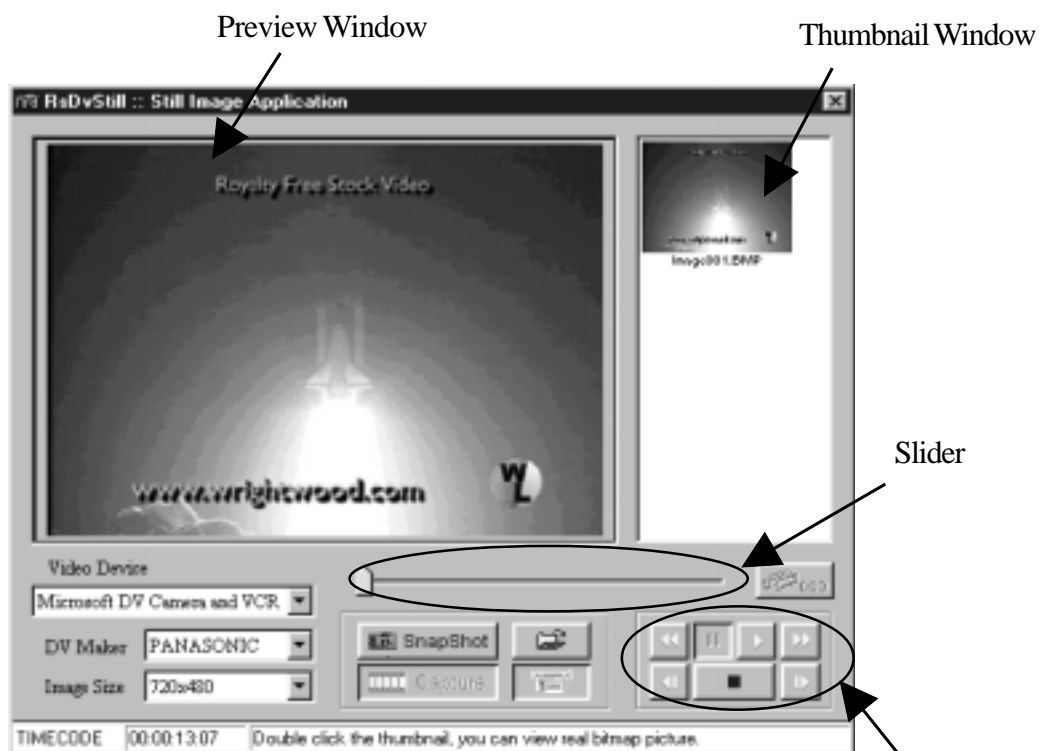
What is the RsDvStill?

This application software has the following functions.

- Preview video data from a DVCAM/a CCD camera.
- Save a still image to a BMP file.

6-1.Main menu


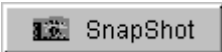







When RsDvStill starts with a DVCAM connected to the CBFW1U, RsDvStill will detect whether the DVCAM is in camera mode or in video mode automatically and pauses the DV tape if the DVCAM is set to video mode and there is a DV tape in the DVCAM.



Camera Control Button.

NOTE

To capture correct DV file, you have to use original DV footages which has continuous Timecode(recording). If the original DV footage has intermittent Timecode, sometimes it may cause system freeze or may not be captured.

Category	Description
DV Maker	This list box shows a list of DVCAM manufacturer such as Sony, JVC, Panasonic, Canon, Sharp, etc. Choose your DVCAM manufacturer. If you can't find it, choose OTHER.
Image Size	There are 3 kinds of resolution:720 x 480, 360 x 240, 88 x 60. This value means raw data from a DVCAM.
Slider Bar	You can select a favorite scene from video capture data by moving this slider bar. This slider bar is enabled when you click the Capture button.
	You can capture video images for about 1 second by clicking this button. After clicking this button, preview will be stopped.
	You can save a BMP file on the preview window. The BMP file will be saved and hold at the top of the thumbnail window.
Video Device	Video Device displays a list of camera device connected to your PC. If this list box is blank, your camera isn't recognized. When you use Windows98, " Sony DV Camcorder " string will appear. When you use Windows98 SE(Second Edition), Windows 2000 or Windows Me(Millennium Edition), " Microsoft DV Camera and VCR " string will appear.
Camera Control Button	When a DVCAM is in video mode, you can control a DV tape as follows.
 , Play, Stop
Pause
 , Fast Rewind, Fast Forward or Slow Rewind, Slow Forward
 , Previous Frame, Next Frame

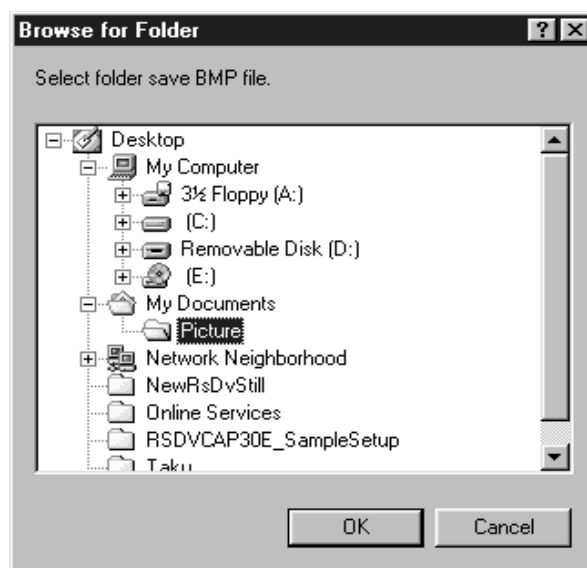
Category	Description
----------	-------------




Time Code

This box shows the timecode information of your DV tape.
This timecode format is HOUR:MINUTE:SECOND:FRAME.



When you click this button, you will see the screen below. You can select a folder where you want to save a BMP file.



This button will be enabled only when you click the  Capture button. When you click the  Capture button, preview will be paused. When you want to resume previewing, click the  button.



This button will be enabled only when you use a CCD camera. When you click this button, you can display the CCD camera control dialog box. With this dialog, you can control a CCD camera. For example, zoom, focus, etc.




6-2.How to save a BMP file

(1)Save a BMP file from a DV tape


1.Set a DV tape in a DVCAM and confirm the DVCAM mode is set to video mode.

Video Mode means you can control a video of a DV tape. If the DVCAM is in camera mode, change mode selection switch from camera mode to video mode slowly as mentioned 5-4.

Capturing a video from a DVCAM in camera mode.

2.Starting RsDvStill, your DV tape will be paused and the  button is disabled.

Set **DV Maker** and decide **Image Size**.



3.Click the  button. You will see the screen below. Select a folder where you want to save a BMP file and click **OK**. If you don't select a folder, a BMP file will be saved in the folder where this application is installed.

4. Find a favorite scene on the DV tape, using the camera control button.


(TIPS)

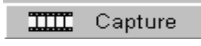


When the  button is disabled, click the  button and the  button.

You can preview slowly. When the  button is enabled, click the  button.

After that,click the  button and the  button. You can preview slowly.

5.There are two ways to save a BMP file as follows.

5-1.Click the  SnapShot button. The BMP file will be saved in the folder under the name of “**Image+ (number) + .BMP**” and the BMP file will hold at the top of the thumbnail window. If you double click the thumbnail, you can view it with real BMP file size.


5-2.Click the  Capture button. After capturing, the DV tape will be paused. Then move the slider to a favorite scene and click the  SnapShot button. The BMP file will hold as mentioned above. If you want to resume previewing, click the  button.

(2) Save a BMP file from a DVCAM in camera mode or a CCD camera

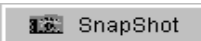
1. Set a DVCAM to camera mode. Camera mode means you can capture a video image. If your DVCAM is in video mode, change mode selection switch from video mode to camera mode slowly as mentioned **5-4. Capturing a video from a DVCAM in camera mode.**

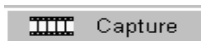


When you use a CCD camera, skip this step.

2. Starting RsDvStill, set **DV Maker** and decide **Image Size**. When you use a CCD camera, **DV Maker** list box is disabled. So, decide **Image Size**.


3. Click the  button. You will see the screen below. Select a folder where you want to save a BMP file. Then click **OK**. If you don't select a folder, a BMP file will be saved in the folder where this application is installed.

4. There are two ways to save a BMP file as follows.

4-1. Click the  button. The BMP file will be saved in the folder under the name of **Image+ (number) + .BMP** and the BMP file will hold at the top of the thumbnail window. If you double click the thumbnail, you can view it with real BMP file.

4-2. Click the  button. After capturing, preview will be paused. Then move the slider to a favorite scene and click the  button. The BMP file will hold as mentioned above. If you want to resume previewing, click the  button.

NOTE

When you use a CCD camera, the  button is enabled. Using this button, you can control the CCD camera. For example, zoom, focus, etc.

7. How to use CompressAVI

What is CompressAVI application software?

This application software has the following functions.

Convert Microsoft DV-AVI2 format video file to another format video file bi-directionally.

As current existent video editing software don't support MS DV-AVI2 format video file, you have to convert the format of video file which is captured by RsDvCap before editing.

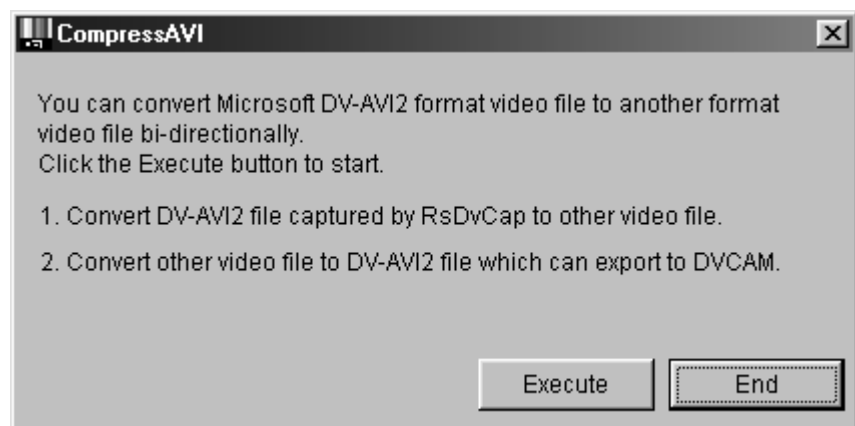
And after editing, if you want to export it to a DVCAM, you have to re-convert video file to MS DV-AVI2 format video file.

Please note, file conversion will take a long time, sometimes over a hour.

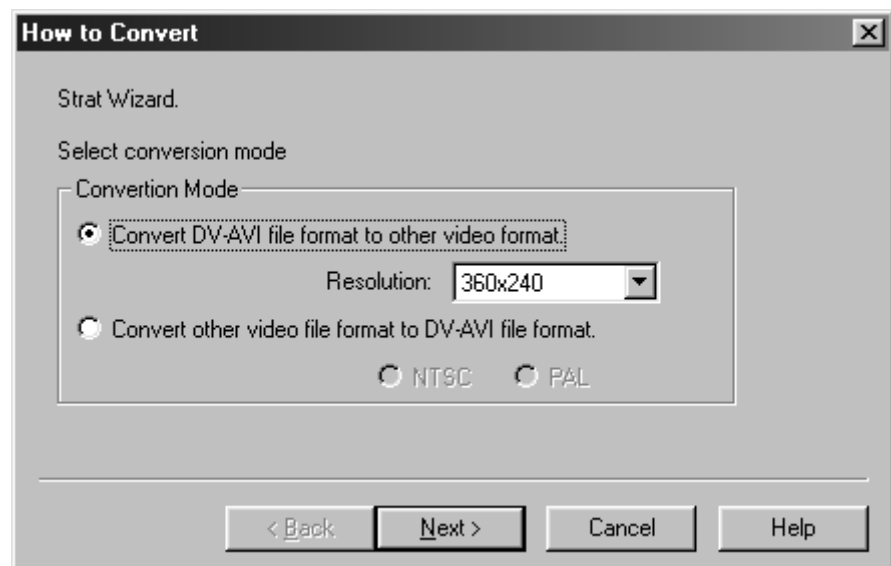
7-1.How to convert the MS DV-AVI2 format into other formats

After you convert the AVI files made by RsDvCap, you can edit it with video editing software.

1.When you start the CompressAVI, you will see the screen below. Click **[Execute]**.

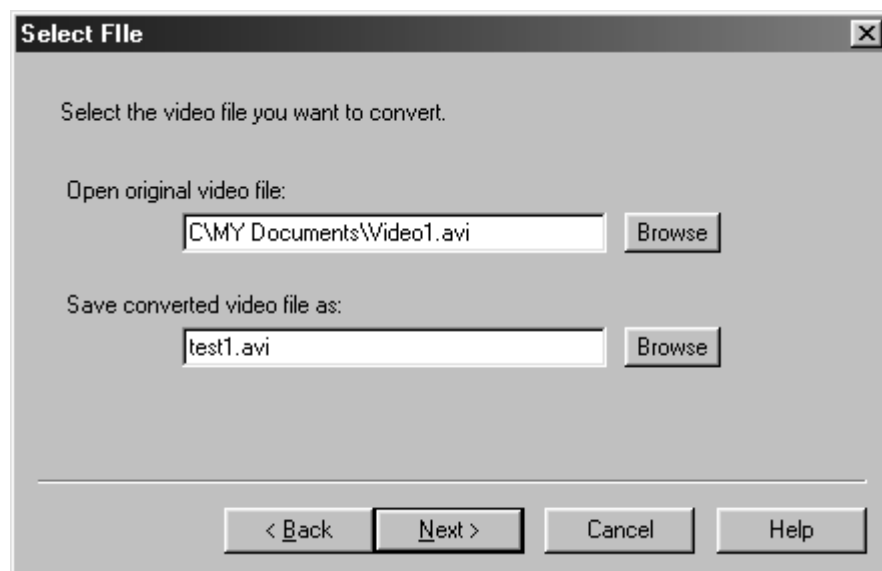


2.Please select “**Convert DV-AVI fomat to other video format**” and select **Resolution**.
Click **[Next]**.



3. Please specify an original video file and a converted video file name.

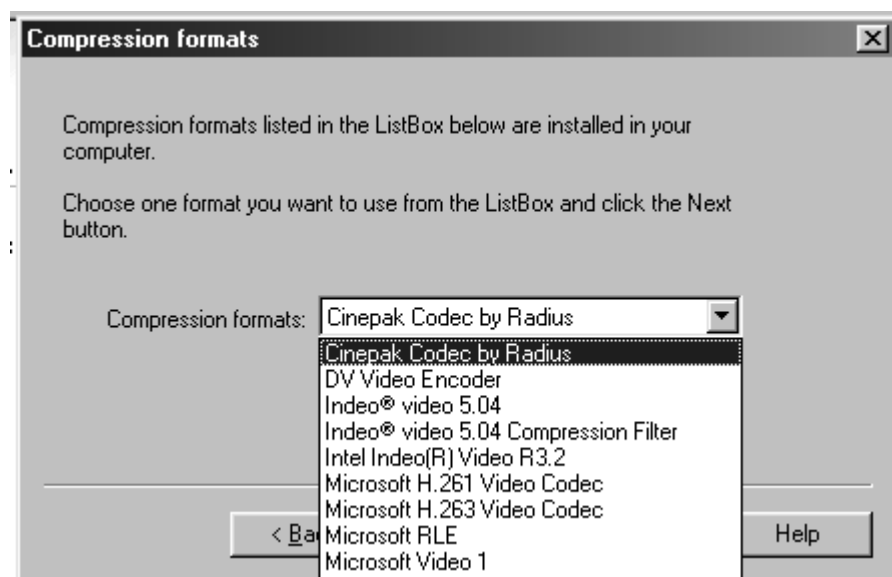
Click [**Next**]. (After conversion, an original video file remains in the HDD.)



4. Please choose a conversion filter from the Compression formats list box.

AVI files made by RsDvCap have a compressed data of DV Video format.

So, select the other compression formats than **DV Video Encoder**.



There are many kinds of compression formats.

(Compression formats appeared in the [**Compression formats**] list box depend on your system)

Popular compression formats are explained below.

1.Microsoft Video1

It does not take much time to convert because this type will lose quality and cause poor image.

2.Microsoft MPEG4

If you use this type of codec, file size will be compressed to about one-tenth and keep good quality.

3.Intel Indeo(R) video3.2

This type of codec was invented by Intel.

Compression rate and quality get better than Microsoft Video1

4.Intel Indeo(R) video5

Compression rate will get better under MMX(R) or Pentium(R) II processor.

5.CinePak Codec

It takes much time to convert but this type will keep quality.

6.DV Video Encoder

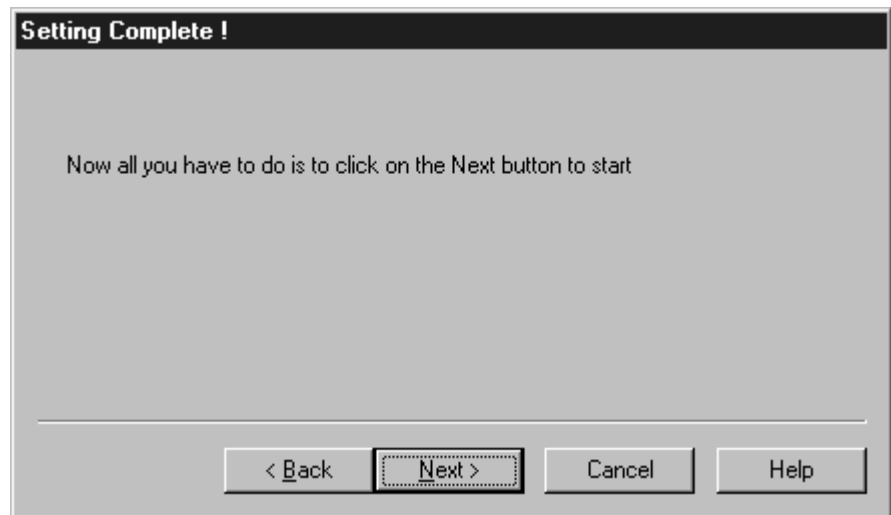
This type of codec can capture a video from a DVCAM in real time.

RsDvCap uses this type of compression and creates AVI files.

7.Non compression

This type saves data without compression. To make data in [**Non compression**], it is necessary to have Windows98 Second Edition, Windows 2000 or Windows ME.

5. Click **[Next]**. The file conversion starts. It takes much time to convert an AVI file.
Conversion time depends on the type of compression format. Please wait patiently.



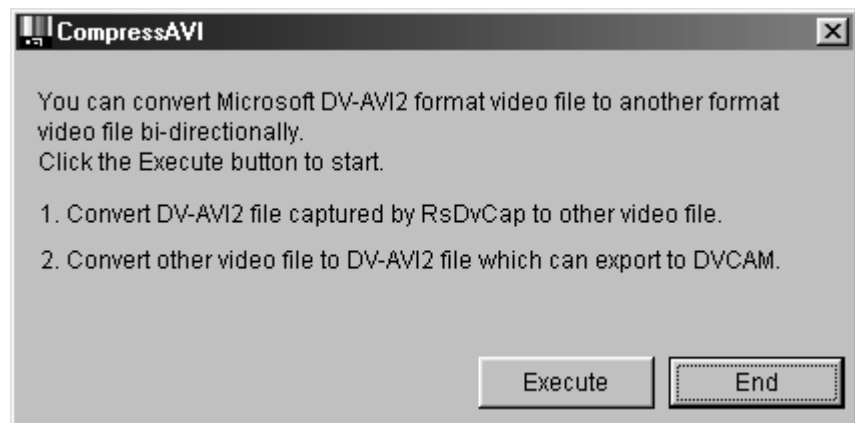
6. When conversion ends, you will see the screen below. Click **[Finish]**.
You can now do a video editing with your video editing software.



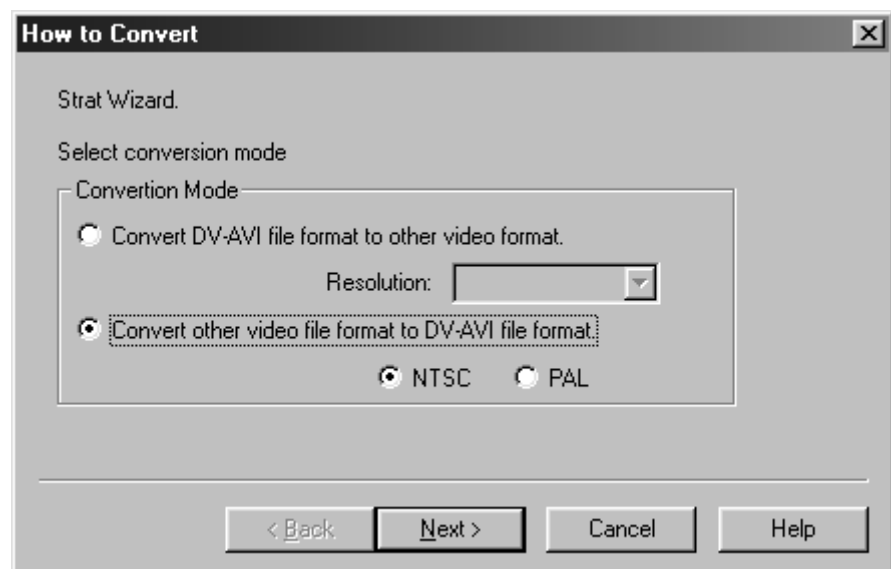
7-2.How to convert other formats to the MS DV-AVI2 format?

You can export a video to a DVCAM after you convert an existing AVI file to the MS DV-AVI2 format.

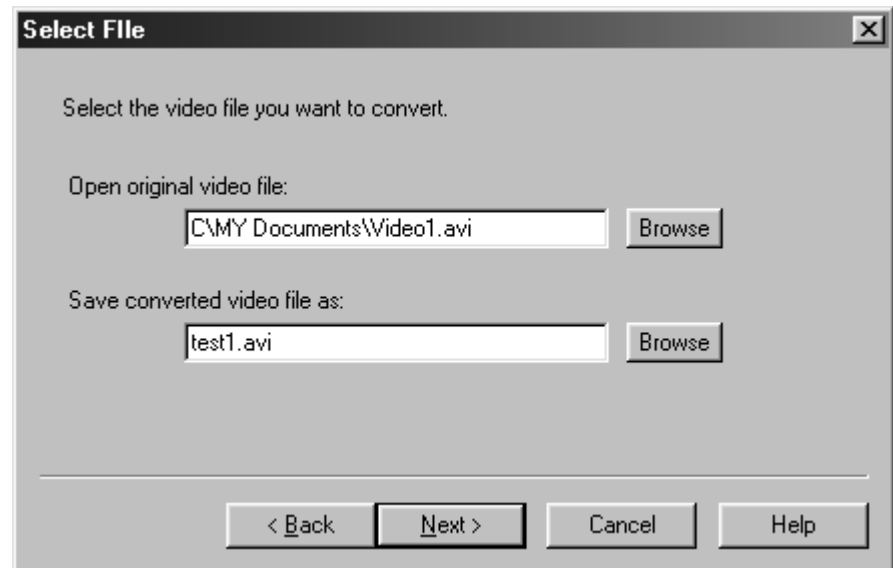
1. When you start the CompressAVI, you will see the screen below. Click **[Execute]**.



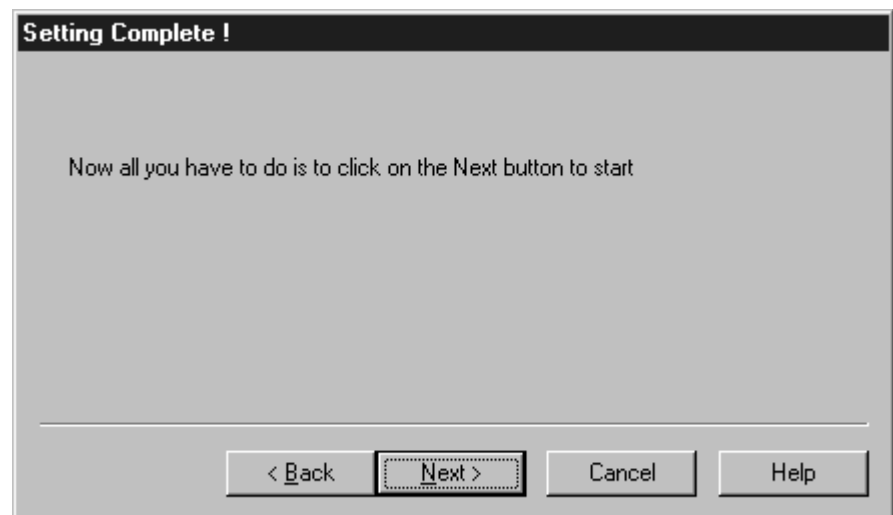
2. Please select **“Convert other video file format to DV-AVI file format”** and choose NTSC or PAL. NTSC is used in the U.S.A. PAL is used in Europe and Asia(except Japan). Then click **[Next]**.



3. Please specify an original video file and a converted video file name. Click **[Next]**.

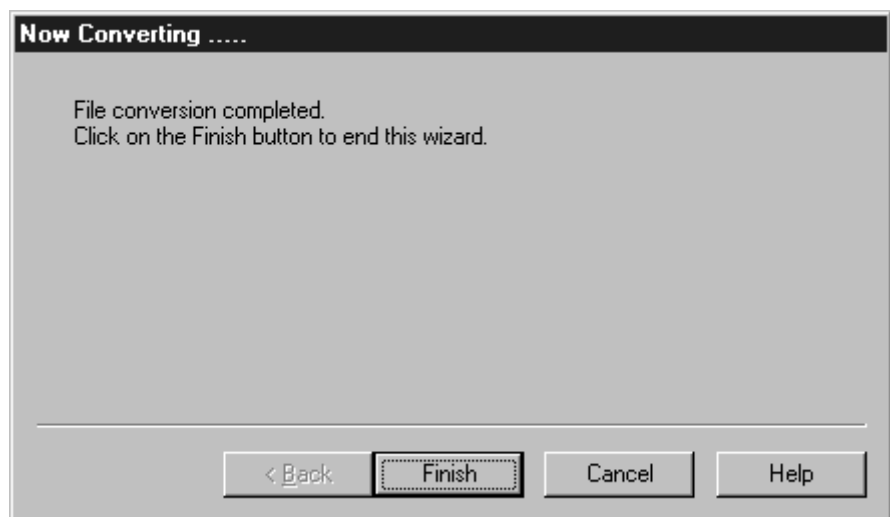


4. Click **[Next]**. It may take much time to convert an AVI file. Please wait patiently.



5. When conversion ends, you will see the screen below. Click **[Finish]**.

You can now export the converted data to a DVCAM by using RsDvCap.



8.Ulead Video Studio

Ulead VideoStudio

This software in this package treats MS DV-AVI2 format video file directly and you don't need to convert video files before and after editing.

For more information, refer to the Video Studio User's Manual.

Follow the steps below to install Ulead Video Studio.

(A)When you use Windows98,

- 1.Double-click ***"My Computer"***.
- 2.Insert the Ulead Video Studio CD-ROM and double-click your CD-ROM icon.
- 3.Open ***"VideoStudio 3.0 DV SE"***.
- 4.Double click on the ***"Setup.exe"***.
- 5.Follow the instructions on the screens.
- 6.To add some functions below, open ***"Windows 2000 Patch"*** in the VideoStudio 3.0 DV SE folder and double-click on the ***"Uvs3dvpw2000e.exe"***.

After you finish,your VideoStudio 3.0 DV SE has the following functions.

a)Multiple file play back:

- You can export DV-AVI2 file more than 2 GBytes onto a DV tape even if your file system is FAT16.
- You can export DV-AVI2 file more than 4 GBytes onto a DV tape even if your file system is FAT32.

b)You can capture a still image from a DVCAM.

(B)When you use Windows98 SE(Second Edition), Windows2000 or Windows Me(Millennium Edition),

- 1.Double click ***“My Computer”***.
- 2.Insert the Ulead Video Studio CD-ROM and double click your CD-ROM icon.
- 3.Open ***“VideoStudio 4.0 SE Basic”***.
- 4.Double-click on the ***“Setup.exe”***.
- 5.Follow the instructions on the screens.

This Ulead Video Studio 4.0 SE has the following new functions.

a)Multiple file play back:

- You can export DV-AVI2 file more than 2 GBytes onto a DV tape even if your file system is FAT16.
- You can export DV-AVI file more than 4 GBytes onto a DV tape even if your file system is FAT32.

b)You can capture a still image from a DVCAM.

c)You can capture music onto a DV tape and save it as MP3.
You can export MP3 onto a DV tape.

9.LiveExpress

LiveExpress

With this e-mail software package, you can send e-mail that includes video, audio or snapshots.

As of August in 2000, there are some restrictions below.

[Restrictions]

- Currently, LiveExpress doesn't support Windows2000.
- We highly recommend to use LiveExpress on Windows98 Second Edition.
- Please use the DVCAMs in **camera mode** not in video mode.
- On Windows 98 first edition, please turn on the DVCAM before loading LiveExpress.
- To attach the data which is in DV tape, please use the other application to capture the data.
After that, open the data from LiveExpress and convert it to EXE format file.
- It doesn't support **PAL** mode DVCAMs.

[Well-known issue]

- When the sound setting on the DVCAM is 16Bit, captured data as AVI format has no sound.
If you would like to use 16Bit sound, please specify "Record video as EXE format" in preference.
- If the one who receives the mail with LiveExpress self-executable file doesn't have sound resources on his/her computer, the data cannot be played back.

For more information, please refer to the manual.

10. Troubleshooting

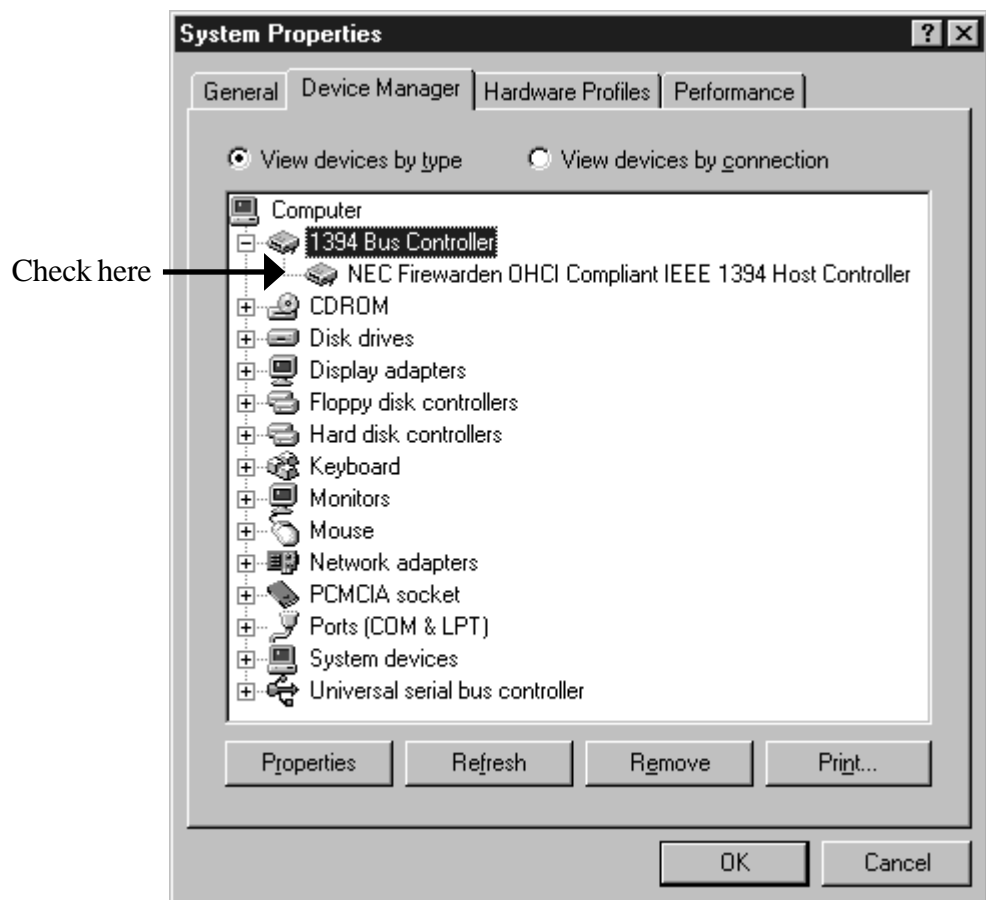
10-1. Camera can not be recognized

If your camera is recognized by our capture software(RsDvCap,RsDvStill), **Camera list box in RsDvCap or Camera Driver in RsDvStill** shows the string such as **Microsoft DV Camera and VCR** or **Sony DV Camcorder**. If the box is blank, camera is not recognized.

General Solution:

1. PC Card is not firmly seated in the slot.

If your PC Card is inserted correctly, you will see the screen below in the **Device Manager** and you can find a [NEC Firewarden OHCI Compliant IEEE1394 Host Controller] string.



2.If your DVCAM is recognized as **“Other Devices”** in the **Device Manager**, please refer to page 92.

3.There have to be a **[SONY DVCR]** string under the **“Sound video and game controller”** in the **Device Manager** when you use **Windows98**. If you can not find it, make sure your DVCAM is powered on.

If you use Windows98 SE(Second Edition), there have to be a **[Microsoft DV Camera and VCR]** string under the **“Imaging Device”** in the **Device Manager**. If you can not find it, make sure your DVCAM is powered on.

If you use Windows2000, there have to be a **[Microsoft DV Camera and VCR]** string under the **“Imaging Device”** in the **Device Manager**. If you can not find it, make sure your DVCAM is powered on.

If you use Windows Me(Millennium Edition), there have to be a **camera name** string under the **“Imaging Device”** in the **Device Manager**. If you can not find it, make sure your DVCAM is powered on.

10-2. When you can not export smooth and clear video image to a DVCAM(Windows98/98SE/Me).

If you use Windows2000, see **10-3. When you can not export smooth and clear video image to a DVCAM(Windows2000).**

In the **RATOC IEEE1394 PC Card CD-ROM**, there is the driver for CardBus Bridge property setting controller named ***CBRPSET.VXD***(for Windows 98 or Windows 98 SE) or ***MERPSET.VXD***(for Windows Me). This driver improves DV export data transfer capability, so you will get clear and smooth video image on your DVCAM screen. But please note, this driver does not affect any preview and capture capability.

If you can not get smooth video image on your laptop PC, you need other solutions such as fast CPU, big memory, and fast HDD. Also, DXMedia6.0 library, Powermanagement disable, LAN disable control.

1. Before installation of the driver.

You have to check the CardBus Bridge chip included in your laptop PCs before the installation of this driver. If your CardBus Bridge chip is not listed in the **CardBus Bridges name list** written in the next page, the driver can not improve DV export transfer capability.

Here is **how to check your CardBus Bridge chip**. Please follow steps through.

1. Click **My Computer** with the right button of the mouse.
2. Select **Properties**.
3. **System Properties** window will appear.
4. Click the **Device Manager** tab.
5. Double-click the **“PCMCIA socket”**.
6. You can see some CardBus Bridge chip name string. Check the **CardBus Bridges name list** written in the next page which is supported by the driver.

CardBus Bridges name list

If you can find the name in this list, the driver will improve DV export capability.

CardBus Bridge chip made by RICOH:

- Ricoh RL5C476 CardBus Controller
- Ricoh RL/RB5C478 CardBus Controller
- Ricoh RL5C475 CardBus Controller

CardBus Bridge chip made by TEXAS INSTRUMENTS(TI):

- Texas Instruments PCI-1210 CardBus Controller
- Texas Instruments PCI-1211 CardBus Controller
- Texas Instruments PCI-1220 CardBus Controller
- Texas Instruments PCI-1221 CardBus Controller
- Texas Instruments PCI-1225 CardBus Controller
- Texas Instruments PCI-1250 CardBus Controller
- Texas Instruments PCI-1251/1251A CardBus Controller
- Texas Instruments PCI-1251B CardBus Controller
- Texas Instruments PCI-1260 CardBus Controller
- Texas Instruments PCI-1410 CardBus Controller
- Texas Instruments PCI-1420 CardBus Controller
- Texas Instruments PCI-1450 CardBus Controller
- Texas Instruments PCI-1451 CardBus Controller
- Texas Instruments PCI-4410 CardBus Controller
- Texas Instruments PCI-4450 CardBus Controller
- Texas Instruments PCI-4451 CardBus Controller

CardBus Bridge chip made by TOSHIBA:

- Toshiba ToPIC95 CardBus Controller
- Toshiba ToPIC97 CardBus Controller
- Toshiba ToPIC100 CardBus Controller

CardBus Bridge chip made by O2Micro:

- O2Micro 0Z6812 CardBus Controller
- O2Micro 0Z6912 CardBus Controller

2. Restrictions.

If you come across the following CardBus Bridge chip, unfortunately you can not improve DV export capability, because the driver can not improve these CardBus Bridge chip's burst mode transfer capability.

- Texas Instruments PCI-1130 CardBus Controller
- Texas Instruments PCI-1131 CardBus Controller
- Ricoh RL5C466 CardBus Controller
- Ricoh RL5C465 CardBus Controller
- O2Micro 0Z6832/6833 CardBus Controller

If you come across Ricoh CardBus Bridge RL5C476, please note the following restrictions. The driver will improve DV export capability of CardBus Bridge RL5C476, but this improvement may cause the following problems A) B).

A) You can not use suspend/resume mode when you are using the CBFW1U if your CardBus Bridge is RL5C476.

B) You can not use another PC Card simultaneously with the CBFW1U if your CardBus Bridge is RL5C476. You can use only one CBFW1U with your laptop. You can use another PC Card when the CBFW1U is removed if your CardBus Bridge is RL5C476.

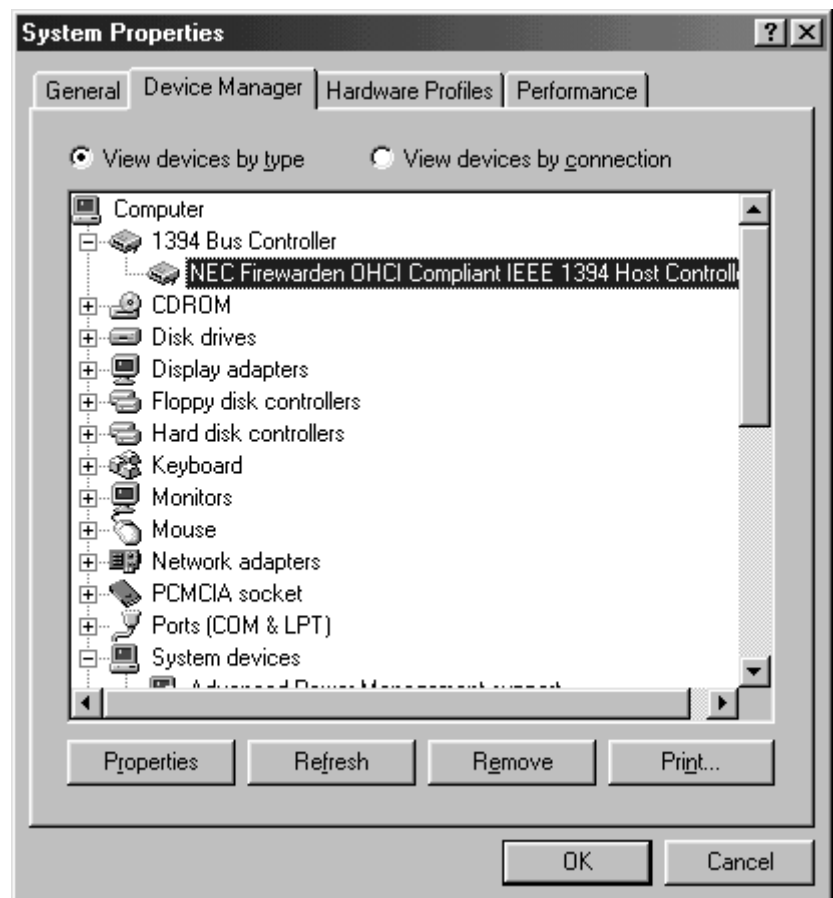
3.How to install the driver:CBPRSET.SYS or MERPSET.SYS

You have already installed the driver [**NEC FireWarden OHCI Compliant IEEE 1394 Host Controller**] or old version of [**RATOC System OHCI Compliant IEEE 1394 CardBus PC Card**] driver for the CBFW1U. You should replace them to this new “**RATOC 862 OHCI Compliant IEEE 1394 CardBus Card(OS Version)**” driver.

You can update and replace them, simply following the instructins below.

- 1.Insert the CBFW1U PC Card into the PC Card slot.
- 2.Click **My Computer** with the right button of the mouse.
- 3.Select **Properties**.
- 4.**System Properties** windows will appear.
- 5.Click the **Device Manager** tab.
- 6.Double-click “**1394 Bus Controller**” icon.

You can find a [**NEC Firewarden OHCI Compliant IEEE 1394 Host Controller**] or a [**RATOC System OHCI Compliant IEEE 1394 CardBus PC Card**] string as shown below and select [**NEC...**] or [**RATOC...**] and click the [**properties**] button.



7. Click the **Driver** tab and click [**Update Driver...**].



8. You will see the screen below when you use **Windows98 or Windows 98 SE**. Click [**Next**].



You will see the screen below when you use **Windows Me**. Select [**Specify the location of the driver(Advanced)**] and click [**Next**].



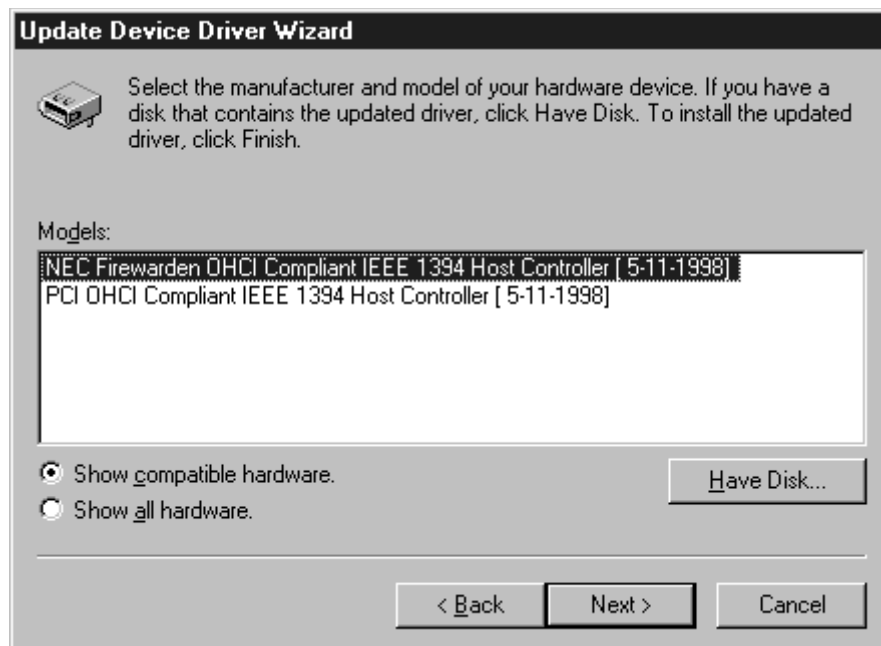
9. You will see the screen below when you use **Windows98 or Windows 98 SE**. Select [**Display a list of all drivers in a specific location,so you can select the driver you want**] and click [**Next**].



You will see the screen below when you use **Windows Me**. Select [**Display a list of all drivers in a specific location,so you can select the driver you want**] and click [**Next**].



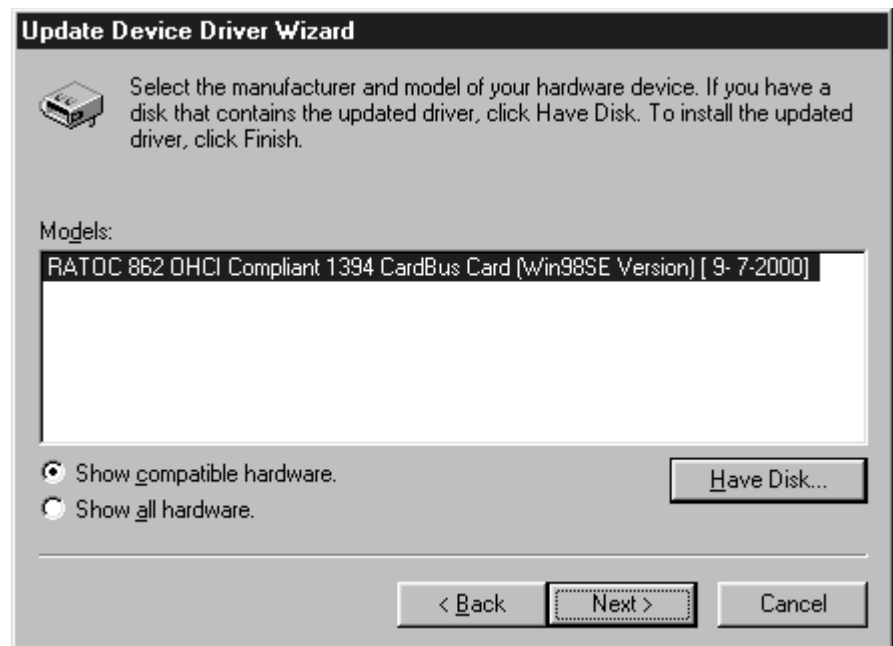
10. You will see the screen below. Click [**Have Disk...**].



11. You will see the screen below. Set the **RATOC IEEE1394 PC Card CD-ROM** in the CD-ROM drive and type “**D:\Win98**” or “**D:\Win98SE**” or “**D:\WinMe**”, where “**D**” means the CD-ROM drive. When you use Windows98, type “**D:\Win98**”. When you use Windows 98 SE, type “**D:\Win98SE**”. When you use WindowsME, type “**D:\WinMe**”. After that, click [OK].



12. You will see a [RATOC 862 OHCI Compliant 1394 CardBus Card(OS Version)] string as shown below. And click [Next].



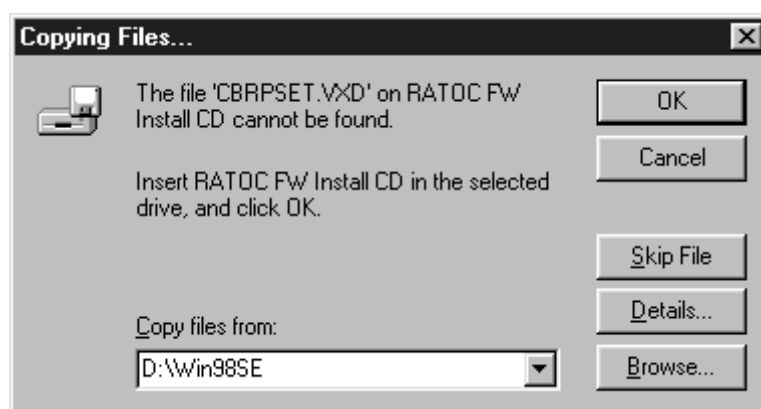
13. You will see the screen below. Click **[Next]**.



14. If the following message appears, make sure that the **RATOC IEEE1394 PC Card CD-ROM** is inserted in the CD-ROM drive. After that, click **[OK]**.



14. When a dialog box says **[The file cbrpset.vxd on RATOC FW Install CD can not be found. Insert RATOC FW Install CD in the selected drive, and click OK.]**, type **“D:\Win98”** or **“D:\Win98SE”** and click **[OK]**. This message may appear only when your Windows is **Windows 98 or 98SE**.



If a dialog box says [The file **MERPSET.VXD** was not found.Windows needs the disk labeled '**RATOC FW Install CD**' to continue. This disk may be provided by your computer or device manufacturer.], type "**D:\WinMe**"and click [OK].

This message may appears only when your Windows is **Windows Me**.



15. You will see the screen below. Click [Finish].

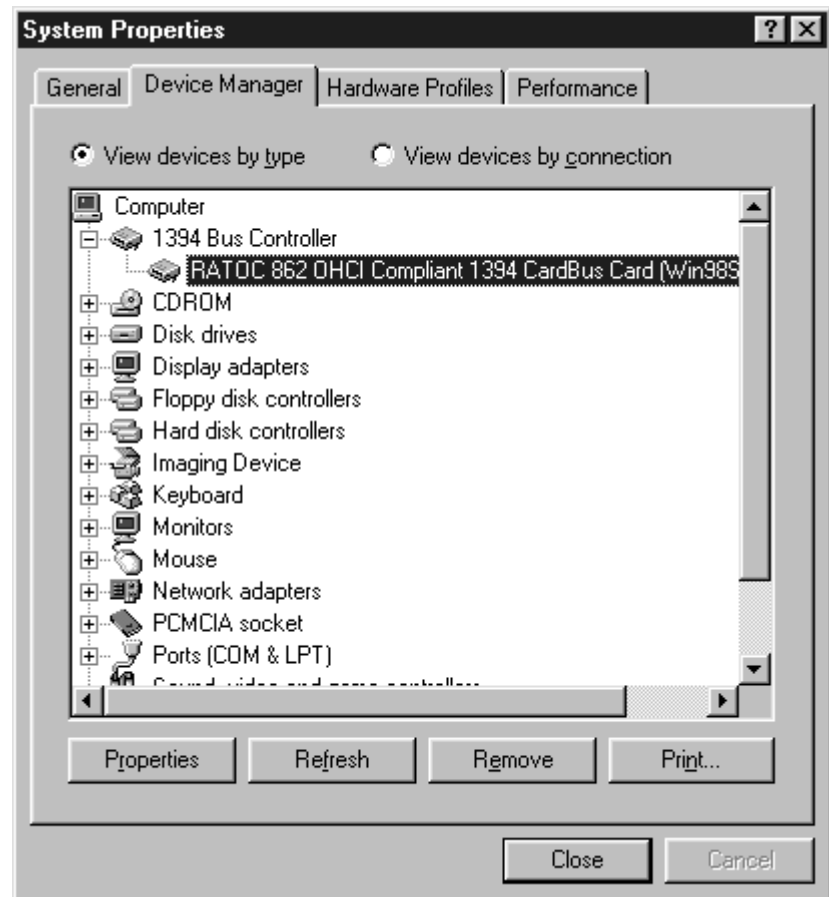


16. You will see the screen below. Click [Yes].



You have now completed the installation of the driver.Please try DV Export function with RsDvCap.exe.

17. Make sure you can find a **[RATOC 862 OHCI Compliant 1394 CardBus Card(OS Version)]** string in the **device manager**.



If there is a yellow “!” mark on a **[RATOC 862 OHCI Compliant 1394 CardBus Card(OS Version)]** string, restart your laptop PCs again.

10-3. When you can not export smooth and clear video image to a DVCAM(Windows2000).

If you use Windows98/Windows98 SE(Second Edition)/Windows Me(Millennium Edition), see **10-2. When you can not export smooth and clear video image to a DVCAM(Windows98/98SE/Me)**. In the **RATOC IEEE1394 PC Card CD-ROM**, there is the driver for CardBus Bridge property setting controller named **CBPRSET.SYS**. This **CBPRSET.SYS** driver improves DV export data transfer capability, so you will get clear and smooth video image on your DVCAM screen. But please note, this driver does not affect any preview and capture capability. If you can not get smooth video image on your laptop PC, you need other solutions such as fast CPU, big memory, and fast HDD. Also, DXMedia6.0 library, Powermanagement disable, LAN disable control.

1. Before installation of the driver.

You have to check the CardBus Bridge chip included in your laptop PCs before installation of this driver. If your CardBus Bridge chip is not listed in the **CardBus Bridges name list** written in the next page, the driver can not improve DV export transfer capability.

Here is **how to check your CardBus Bridge chip**. Please follow steps through.

1. Click **My Computer** with the right button of the mouse.
2. Select **Properties**.
3. Click the **Hardware** tab.
4. Click the **Device Manager** button.
5. Double-click the **“PCMCIA adapter”**.
6. You can see some CardBus Bridge chip name string. Check the **CardBus Bridges name list** written in the next page which is supported by the driver.

CardBus Bridges name list

If you can find the name in this list, the driver will improve DV export capability.

CardBus Bridge chip made by RICOH:

- Ricoh RL5C476 CardBus Controller
- Ricoh RL/RB5C478 CardBus Controller
- Ricoh RL5C475 CardBus Controller

CardBus Bridge chip made by TEXAS INSTRUMENTS(TI):

- Texas Instruments PCI-1210 CardBus Controller
- Texas Instruments PCI-1211 CardBus Controller
- Texas Instruments PCI-1220 CardBus Controller
- Texas Instruments PCI-1221 CardBus Controller
- Texas Instruments PCI-1225 CardBus Controller
- Texas Instruments PCI-1250 CardBus Controller
- Texas Instruments PCI-1251/1251A CardBus Controller
- Texas Instruments PCI-1251B CardBus Controller
- Texas Instruments PCI-1260 CardBus Controller
- Texas Instruments PCI-1410 CardBus Controller
- Texas Instruments PCI-1420 CardBus Controller
- Texas Instruments PCI-1450 CardBus Controller
- Texas Instruments PCI-1451 CardBus Controller
- Texas Instruments PCI-4410 CardBus Controller
- Texas Instruments PCI-4450 CardBus Controller
- Texas Instruments PCI-4451 CardBus Controller

CardBus Bridge chip made by TOSHIBA:

- Toshiba ToPIC95 CardBus Controller
- Toshiba ToPIC97 CardBus Controller
- Toshiba ToPIC100 CardBus Controller

CardBus Bridge chip made by O2Micro:

- O2Micro 0Z6812 CardBus Controller
- O2Micro 0Z6912 CardBus Controller

2. Restrictions.

If you come across the following CardBus Bridge chip, unfortunately you can not improve DV export capability, because the driver can not improve these CardBus Bridge chip's burst mode transfer capability.

- Texas Instruments PCI-1130 CardBus Controller
- Texas Instruments PCI-1131 CardBus Controller
- Ricoh RL5C466 CardBus Controller
- Ricoh RL5C465 CardBus Controller
- O2Micro 0Z6832/6833 CardBus Controller

If you come across Ricoh CardBus Bridge RL5C476, please note the following restrictions. The driver will improve DV export capability of CardBus Bridge RL5C476, but this improvement may cause the following problems A) B).

- A) You can not use suspend/resume mode when you are using the CBFW1U if your CardBus Bridge is RL5C476.
- B) You can not use another PC Card simultaneously with the CBFW1U if your CardBus Bridge is RL5C476. You can use only one CBFW1U with your laptop. You can use another PC Card when the CBFW1U is removed if your CardBus Bridge is RL5C476.

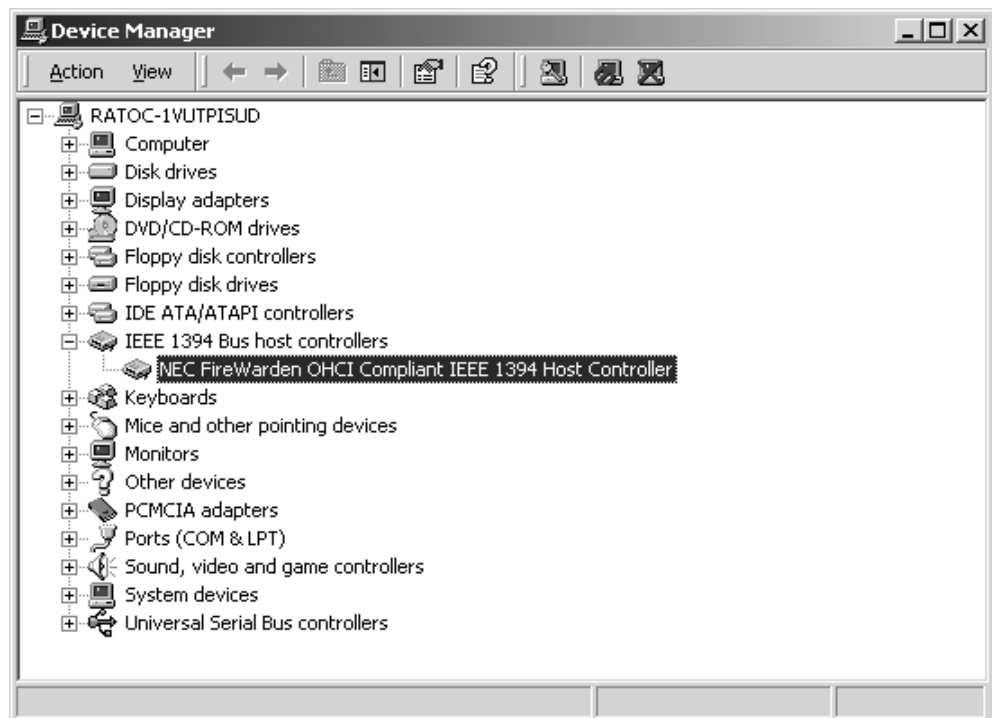
3.How to install the driver:CBPRSET.SYS

You have already installed the driver [**NEC FireWarden OHCI Compliant IEEE 1394 Host Controller**] or old version of [**RATOC System OHCI Compliant IEEE 1394 Card Bus PC Card**] driver for the CBFW1U. You should replace them to this new “**RATOC 862 OHCI Compliant 1394 CardBus Card(Win2K Version)**” driver.

You can update and replace them, simply following the instructions below.

- 1.Insert the CBFW1U PC Card into the PC Card slot.
- 2.Click **My Computer** with the right button of the mouse.
- 3.Select **Properties**.
- 4.Click the **Hardware** tab.
- 5.Click the **Device Manager** button. You will see the screen below.
- 6.Double-click “**IEEE1394 Bus host controllers**” icon.

You can find a [**NEC Firewarden OHCI Compliant IEEE 1394 Host Controller**] or a [**RATOC System OHCI Compliant IEEE 1394 CardBus PC Card**] string as shown below and select [**NEC...**] or [**RATOC...**] and double-click it.



7. You will see the screen below. Click the **Driver** tab and click **[Update Driver...]**.



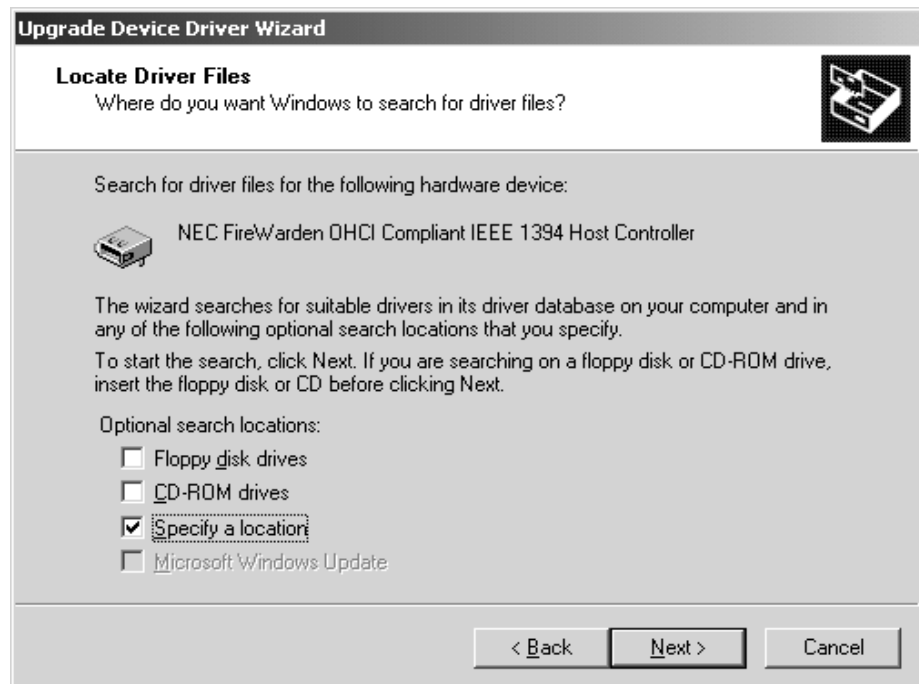
8. You will see the screen below. Click **[Next]**.



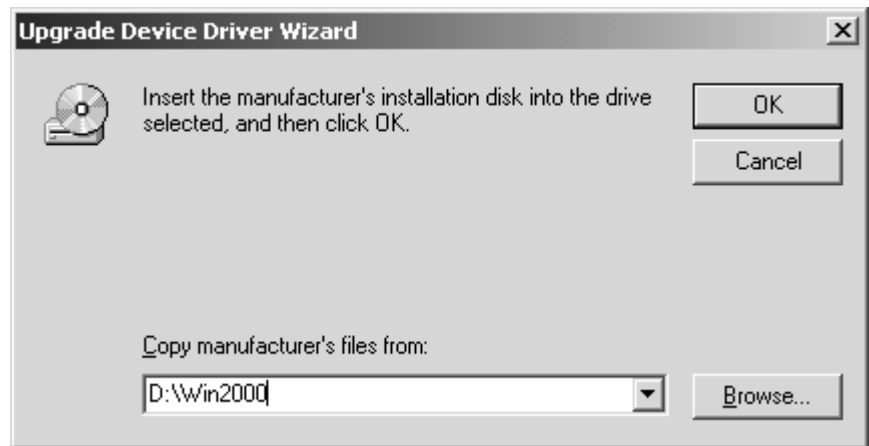
9. You will see the screen below. Check **[Search for a suitable driver for my device (recommended)]** and click **[Next]**.



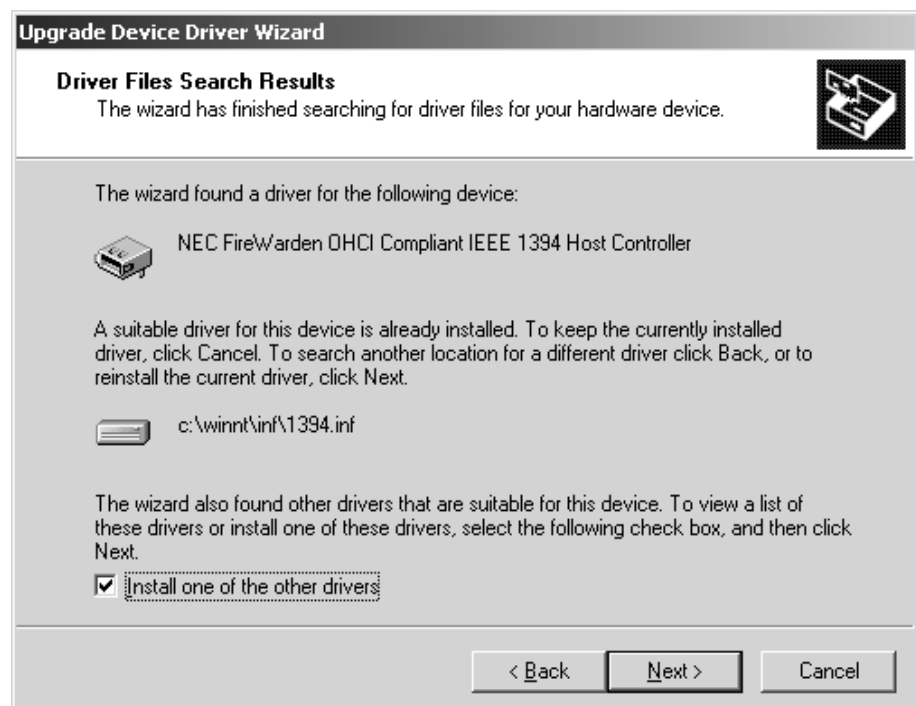
10. You will see the screen below. Check **[Specify a location]** and click **[Next]**.



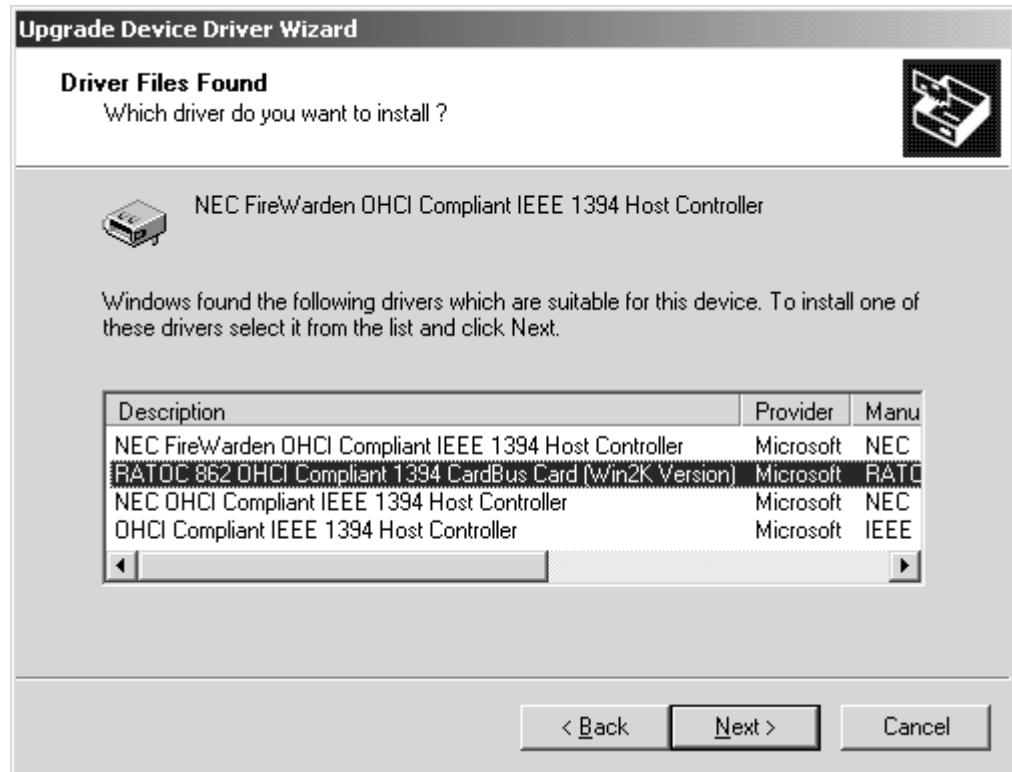
11. You will see the screen below. Insert the **RATOC IEEE1394 PC CARD CD-ROM** and Type **“D:\Win2000”**, where **D** means your CD-ROM drive and click [OK].



12. You will see the screen below. Check **“Install one of the other driver”** and click [Next].



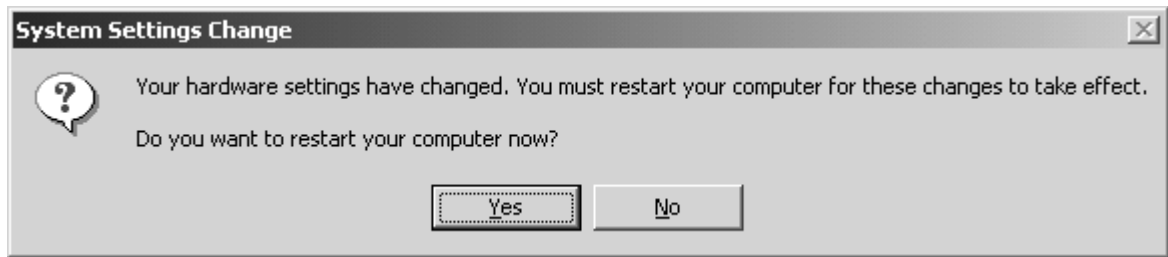
13. You will see the screen below. Select “**RATOC 862 OHCI Compliant 1394 CardBus Card(Win2K Version)**” and click [Next].



14. You will see the screen below. Click [Finish].

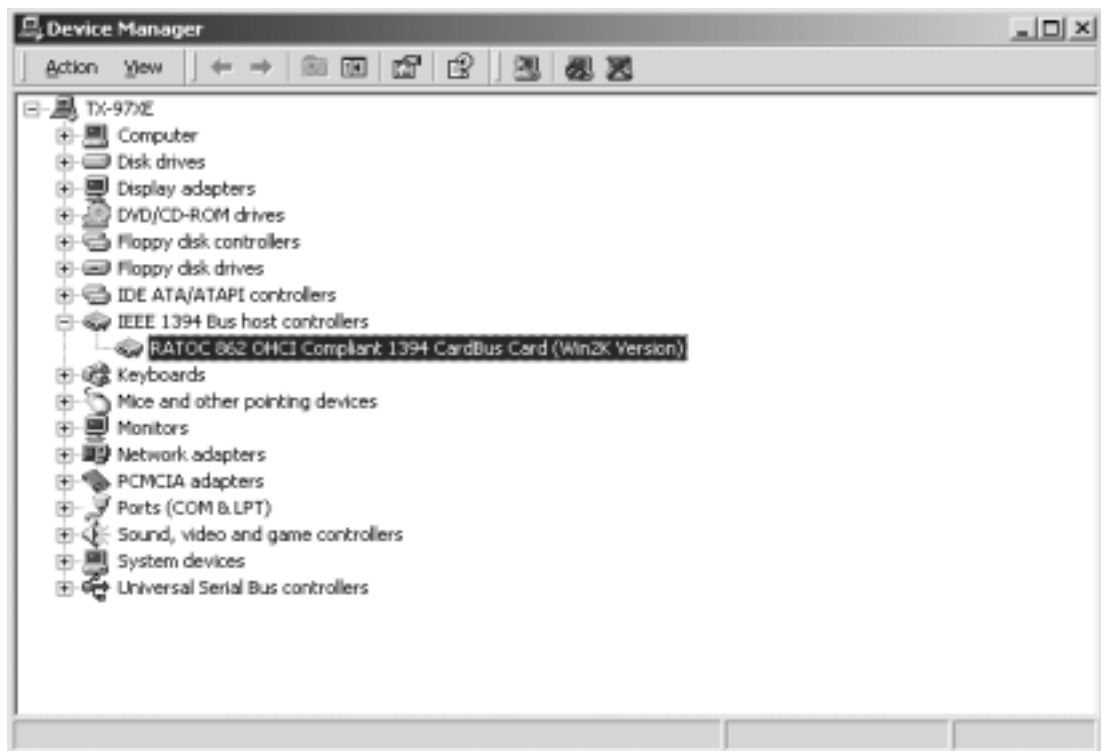


15. You will see the screen below. Click **[Yes]** to restart your PC.



You have now completed the installation of the driver. Please try DV Export function with RsDvCap.exe.

16. Make sure there is a **[RATOC 862 OHCI Compliant 1394 CardBus Card(Win2K version)]** string in the **Device Manager**.

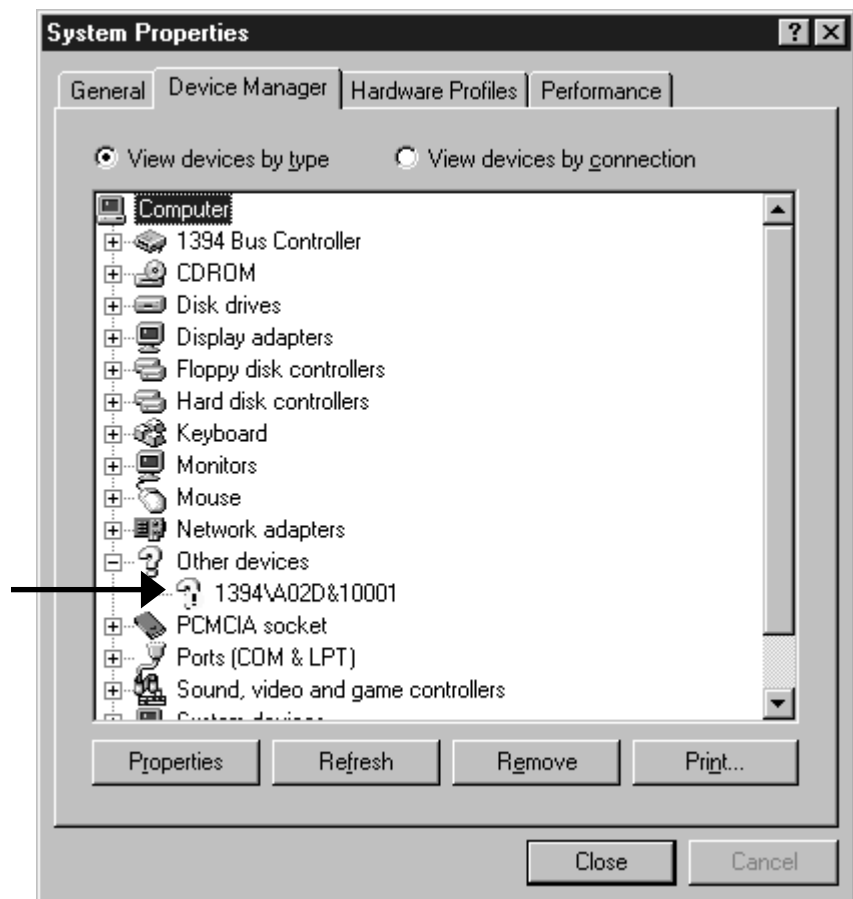


If there is yellow "!" mark on **[RATOC 862 OHCI Compliant 1394 CardBus Card(Win2K Version)]**, restart your PC again.

10-4. When you fail to install DVCAM driver(sonydvcr.sys).

If the “**Hardware Wizard**” did not start at the first time as described in page 18, please follow steps through.

1. Open “**Device Manager**” window. And find a “**1394 Bus Controller**” string.
2. Double-click it and make sure there is a “**NEC Firewarden OHCI Compliant IEEE1394 Host Controller**” string without any yellow “!” marks or red “X” marks.
3. Connect a DVCAM to the CBFW1U and turn it on.
4. Find big yellow “?” marked “**Other Devices**” icon at the “**Device Manager**” window as shown below and double-click it and find a “**1394/A02d&10001**” string.



5. Select “**1394/A02d&10001**” and click “**Properties**”. You will see the screen below.

6. Click [**Reinstall Driver**].



7. “Update Device Driver Wizard” will appear and you will see the screen below.

Click [Next].



8. You will see the screen below. Select “Search for a better driver than one your device is using now(Recommended)” and click [Next].



9. You will see the screen below. Select **“Specify a location”** and type **“D:\WIN98\NTSC”**, where **“D”** means the CD-ROM drive. And insert the **RATOC IEEE1394 PC Card CD-ROM** in the CD-ROM drive and click [Next]. If you have a **“PAL”** model DVCAM, please type **“D:\WIN98\PAL”**.



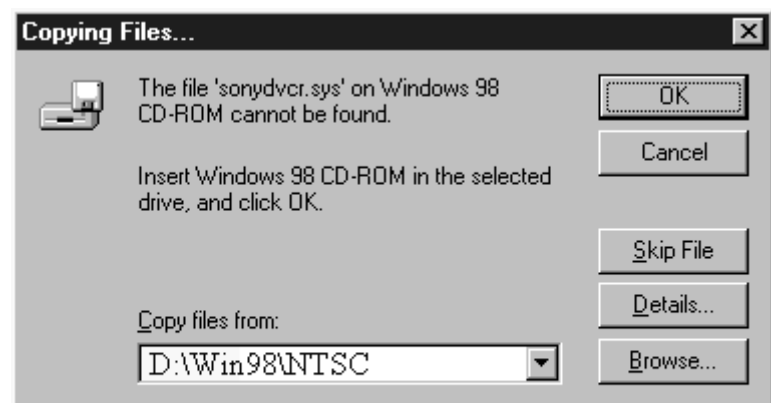
10. You will see the screen below. Click [Next].



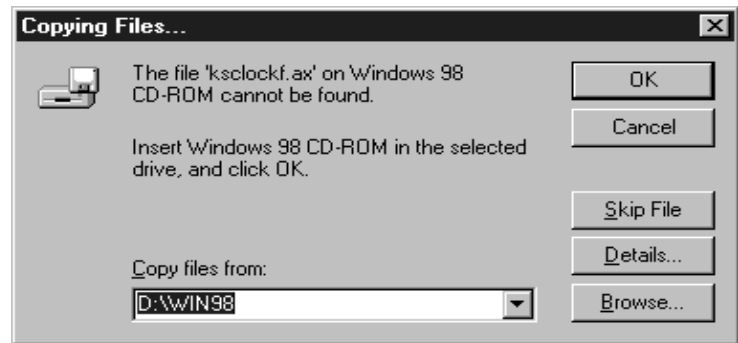
11. When the following window appears, click [OK].



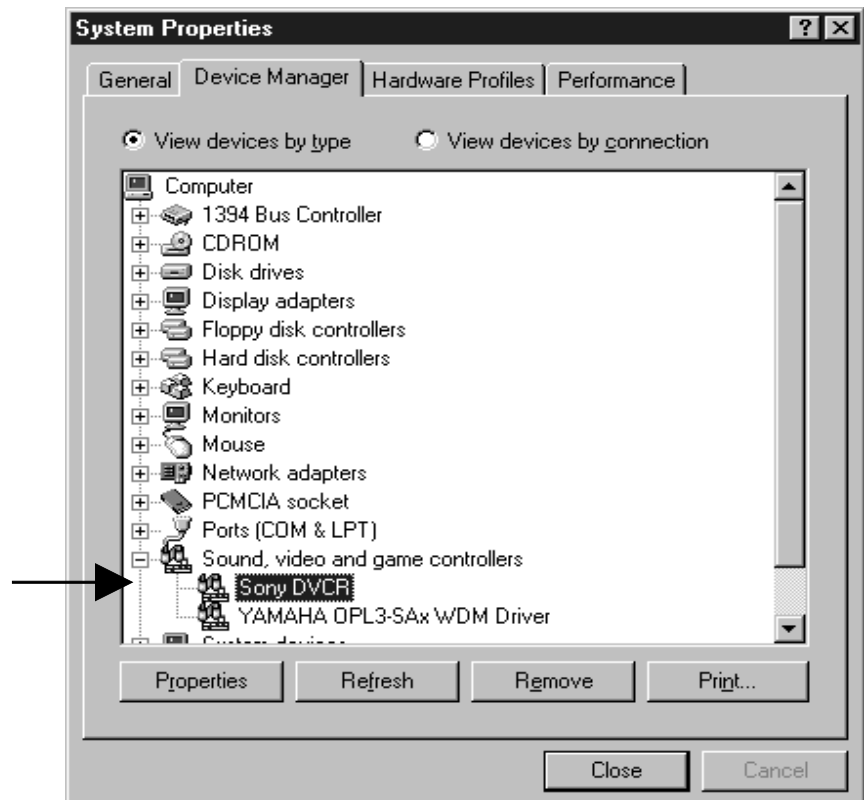
12. When the following window saying [the file 'sonydvcr.sys' on Windows98 CD-ROM cannot be found] appears, insert the **RATOC IEEE1394 PC Card CD-ROM** in the CD-ROM drive and type **"D:\Win98\NTSC"** in the **Copy files from** box. If you have a **"PAL"** model DVCAM, please type **"D:\Win98\PAL"**. Then click [OK].



- 13.If the following dialogbox saying **the file ksclockf.ax on Windows98 CD-ROM cannot be found** appears as shown below, insert the **Windows98 CD-ROM** in the CD-ROM drive and type **“D:\Win98”** or **“C:\Windows\options\cabs”** in the **Copy files from** box. Then click **[OK]**. The ksclockf.ax file is an example. This applies to all files except sonydvr.sys.



- 14.At the next screen, click **[Finish]**.
- 15.Double-click the **“Sound video and game controller”** on the **Device Manager** tab.
- 16.If you can find a **Sony DVCR** string as shown below, you have completed the installation of the DVCAM driver correctly.

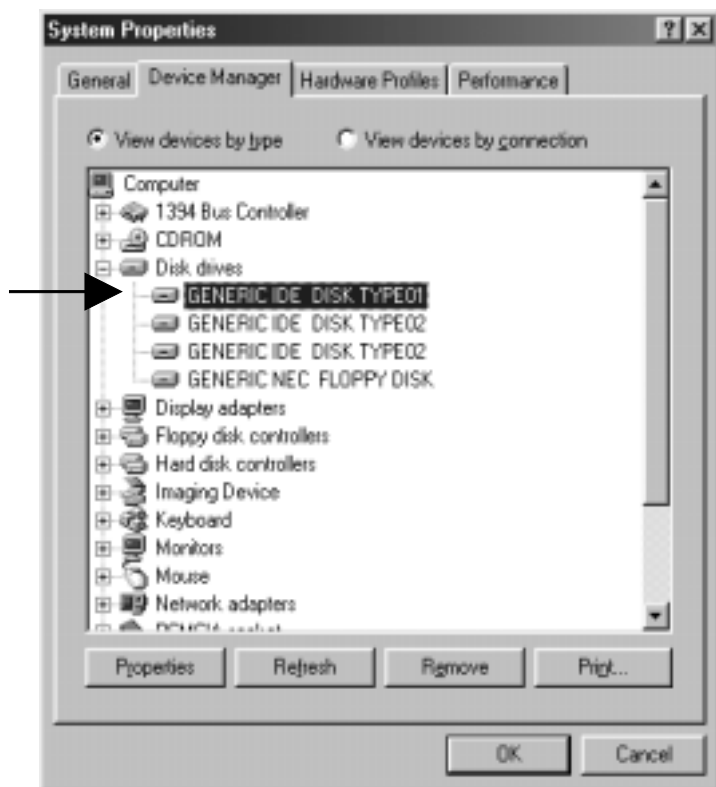


10-5. When playing back the captured file is choppy or jerky.

The data rate from a DVCAM is 3.6MB/sec. If your HDD sustained data write rate is lower than 3.6MB/sec., a captured file may get choppy or jerky when you play back the file.

To avoid this trouble, enable DMA function of your HDD, following steps through.

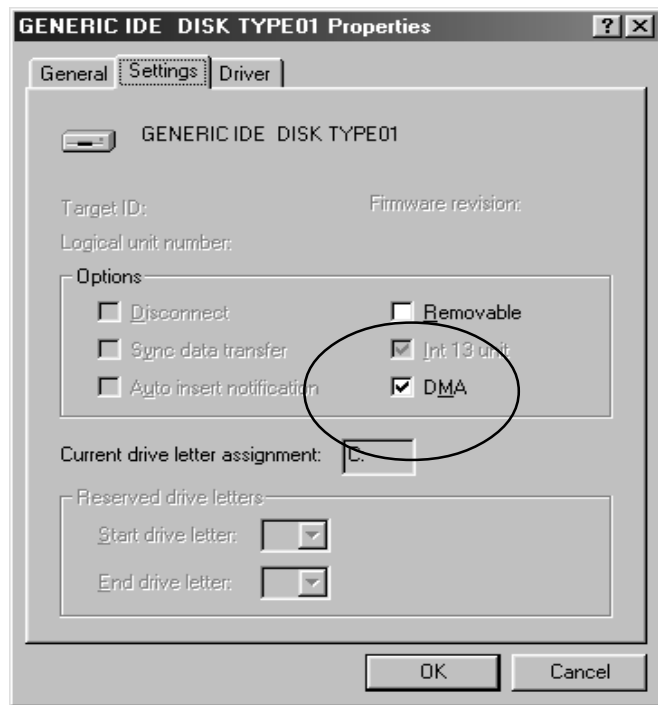
1. Open “**Device Manager**”.
2. Select your **Disk drive** as shown below and click the **Properties** button.



3. Click the **[Setting]** tab and if DMA box is not checked, check here.

But, please note that if your HDD is not Ultra DMA HDD, don't check here.

To make sure that your HDD is Ultra DMA HDD, refer to your HDD manual.

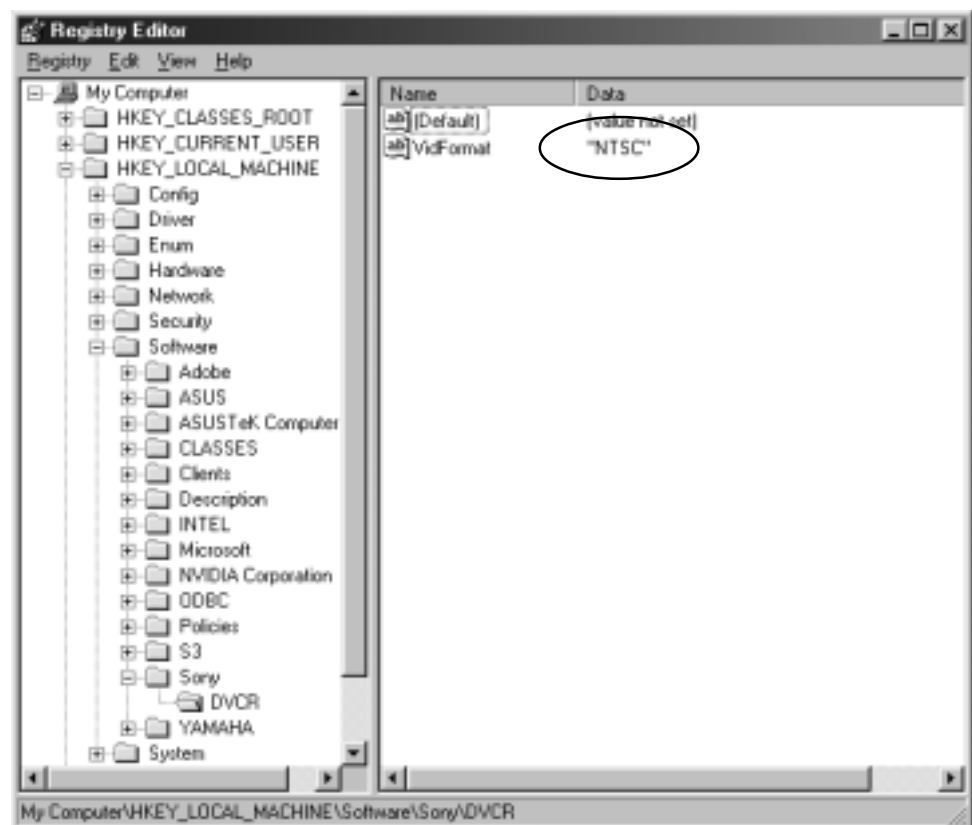


10-6. When previewing picture is pixelised.

When you use Windows98 and installed PAL driver, instead of NTSC or installed NTSC driver, instead of PAL mistakenly, previewing is pixelised.

Here is how to fix it when you installed NTSC driver mistakenly, instead of PAL driver.

1. Click **Start** button and select **Run**.
2. Type in **Regedit**. Click **[OK]**.
3. Find **DVCR** under **Sony** under **Software** under **HKEY_LOCAL_MACHINE** as shown below.
4. Click **DVCR** and find “**NTSC**” string.
(When you installed PAL driver mistakenly, instead of NTSC driver, find “**PAL**” string.)
5. Double-click **VidFormat** and replace the “**NTSC**” with “**PAL**”.
(When you installed PAL driver mistakenly, instead of NTSC driver, replace the “**PAL**” with “**NTSC**”.)
6. Click **[OK]**.



7. Find **Sony CorporationSONYDVCR.INF** file in the **C:\WINDOWS\INF\OTHER**.

C: means your HDD drive letter where your Windows98 is installed.

If your HDD drive letter where your Windows98 is installed is not **“C”**, you must replace **“C”** to the appropriate drive name.

8. Double-click the **Sony CorporationSONYDVCR.INF** and find **“NTSC”** string.

(When you installed PAL driver mistakenly, instead of NTSC driver, find **“PAL”** string.)

9. Replace **“NTSC”** with **“PAL”** and save it.

(When you installed PAL driver mistakenly, instead of NTSC driver, replace **“PAL”** with **“NTSC”**.)

10-7.What kind of Video Editing Software works?

<Video Editing Software>

Microsoft Standard WDM DV filter drivers captures DV data stream and save as an AVI file which consists with original DV data stream. This DV data stream requires 3.6MB/Sec and includes 720x480 resolution video data(NTSC). Also, the file size is restricted up to 4GB (about 19 minutes). As this captured DV file has a different file format from AVI file of Windows3.1/95, you need special Video Editing Software to open and edit it.

If you want to edit video, you have two choices.

- 1.)You have to use Video Editing Software which can handle MS DV-AVI2 format.
- 2.)You have to use CompressAVI application and convert MS DV-AVI2 format to other formats which your Video Editing Software can handle.

You can use bundled VideoStudio without file format conversion. But current existent Video editing software can not treat MS DV-AVI2 format file. So, you need file format conversion both before and after editing.

Adobe Premiere5.1

You have to update your Premiere to 5.1c. 5.1c updater is available at www.adobe.com.

MediaStudio Pro 6.0,MGI VideoWaveIII can handle MS DV-AVI2 format.

11. Registration and Tech-Support

11-1. How to Register

We highly recommend to register yourself as our customer through our on-line registration.

1. On the Internet, access our site (<http://www.ratocsystems.com/english/>)
2. Follow window menu guide to register.
3. Fill out and submit the registration form.

11-2. Software Update and Support

-Software Update-

The latest driver and application software are subject to change for improvement or bug fix. You can download the latest version from our web site.

(<http://www.ratocsystems.com/english/>)

-Technical Support-

You can get a Tech support from RATOC at the following.

(Open Monday - Friday, 9:30 A.M. to 5:00 P.M. (PST))

RATOC Systems International, Inc. Tech support

Address: 1933 O'Toole Avenue Suite A109

San Jose, CA 95131, U.S.A.

Phone : (408)955-9400

Fax : (408)955-9402

E-mail : int-support@rexpccard.co.jp

Web : <http://www.ratocsystems.com/english/>

NOTE

Please include the following information:

- Our product name, serial number, and product description
- Host Computer Name, Windows version
- Application software/driver version

11-3. System Requirements

- PC with CardBus-enabled PC Card slot
- Windows98/Windows98 Second Edition/Windows2000/Windows Me
- Pentium II 300MHz or faster
- At least 64 MB memory
- High performance AGP Graphic Board
- High performance Sound Board
- High performance DMA enabled Hard Disk Drive
- Sufficient Hard Disk space for video capture (1 second DV video = 3.6MB)

If your PC can not have sufficient specifications above, Video motion and audio may get choppy.

11-4.Restrictions

- Sufficient Hard Disk space and Hard Disk sustained data write rate for video capture.
(1 second DV video = 3.6 MB)
- It is necessary for you to use AC Adapter(not included) when you connect devices which require a power source.
- You can not export video images to a DVCAM with PCs below.
(As of May in 1999)
-IBM ThinkPad i 1450, ThinkPad 760EL, ThinkPad 560X
- You can not use this product with PCs below.(As of May in 1999)
-SONY VAIO777, VAIO505, VAIO505EX, FUJITSU FMV-BIBLO NC VII 20
FMV-BIBLO NC VI 20D, FMV-BIBLO NC III 13, FMV-BIBLO NC13D
- You can not use this product with DVCAMs below.(As of May in 1999)
-SHARP VL-DC5, SHARP VL-PD1, SHARP VL-PD3

12. Specifications

Product Name :CBFW1U IEEE1394 CardBus PC Card
Transfer :PC Card Standard(CardBus) 32bit Bus Master
Data Transfer Rate :100/200/400Mbps
Power Requirements :
Voltage :+3.3V(Supplied from PC Card Slot)
Current :237mA (Waiting)
325mA (MAX)
Operating Environment :
Temperature : 0°C(32°F)-55°C(131°F)
Relative humidity: 20-80%(Non-condensing)

Dongle :

IEEE1394 6p connector
Cable power input jack(DC 8 to 30V, 3A max)
GND —●— +DC (5.5φ - 2.1φ)

Features

- IEEE 1394-1995,1394.a compliant PHY chip included
- OHCI 1.0 compliant link layer chip included
- Available 400 Mbps 1394 Bus speed
- Fully compatible with Windows 98 pre-installed standard device driver
- Provides two 1394 ports (2 x 6p)
- 1394 Cable Power available with AC power adapter
- 32-bit Bus mastering data transfer/33MHz operation
- Video/Still image capture software included

Appendix

Trademarks

- Windows is a registered trademark of Microsoft Corporation.
- Sony Corporation has a original copyright of SONYDVCR.SYS.
- Other brand and product names may be registered trademarks or trademarks of their respective holders.

I)FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- (1) Reorient or relocate the receiving antenna.
- (2) Increase the separation between the equipment and receiver.
- (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- (4) Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance may result in this unit not complying with FCC Rules Part 15.

II)CE Statement

This device complies with EN55022(class B) and EN50082-1.